UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
SAM NUNN
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA GEORGIA 30303-8960

MEMORANDUM

From: Shane Hitchcock
Regional Incident Commander

To: A. Stanley Meiburg
Acting Regional Administrator

Walter Dipietro
Region 4 Safety Officer

Date: July 15, 2010

Subj: Acquisition of Special Clothing under EPA Order 4800.1 A1 for field personnel involved in beach clean-up and related activities relating the Deepwater Horizon Oil Spill in affected Region 4 states

This Memorandum seeks your approval for the acquisition of Special Clothing under EPA Order 4800.1 A1 for EPA personnel involved in beach clean-up, oil spill removal and related activities in response to the Deepwater Horizon Oil Spill in affected Region 4 states.

Background: On April 20, 2010, the Deepwater Horizon Oil rig exploded in the Gulf of Mexico resulting in the leaking of thousands of barrels of oil each day into the Gulf of Mexico. Besides the impact to marine life and water quality, the oil spill has impacted over 50 miles of coastline in Region 4 and has the potential to impact several hundred additional miles of beaches and coastal areas. EPA Region 4 has been tasked by the United States Coast Guard, Federal On-Scene Coordinator (FOSC), to oversee beach clean-up and oil removal activities in Alabama, Florida and Mississippi as well as other related activities (sampling, public outreach, etc.). EPA staff assigned to work on beach clean-up or oil spill removal are required to work outdoors for up 10-12 hours per day, seven days a week for a two-week rotation and, after four weeks of their normal assigned duties, work another two-week rotation on beach clean-up/oil spill removal.

On June 8, 2010, the Unified Area Command for the Deepwater Horizon Response issued a Heat Stress Safety Alert and a Heat Stress Management Plan.[1] Heat stress and heat exhaustion has been the primary cause of health and safety incidents in the response. The daily high temperatures in July and August in Pensacola, Florida, and similar coastal areas in Alabama and Mississippi, averages between 89 and 91 degrees. EPA staff working on beach clean-up and oil spill removal are required to work outdoors 10-12 hours per day for fourteen consecutive days in areas without shade or access to air conditioning. According to the attached Incident Report for the Mobile, Alabama sector, approximately 40 incidents of heat related stress were reported for the four day of period between June 19 – June 22, 2010, among all responders (BP, Coast Guard, EPA and private contractors). Because of the extreme heat conditions faced by the responders involved in beach clean-up and oil removal, the EPA Incident Commanders in the Mobile, Alabama, sector, approved the use of light-weight nylon pants with removable leggings below the knee or light-weight nylon shorts for EPA personnel involved in beach clean-up and oil spill removal and the use of wide-brim, light-weight hats by field personnel whose duties involve prolonged exposure to the sun and extreme heat conditions in the Health and Safety Plan (HASP) approved by the Incident Commander. The approved clothing is rated as SPF 50 (to provide UV protection), are quick drying and do not retain moisture.

A key concern here is that the clothes worn by the responders reduce the possibility of heat stress as much as possible, thus the Special Clothing needs to have the attributes described above. Typical warm weather clothing such as canvas or cotton/polyester mix clothing will not provide the extra protection from heat stress and will not shed moisture as quickly as light-weight nylon clothing that is specially designed for hot-weather use. This type of light-weight, nylon clothing, is typically available only at specialty outfitters geared towards providing clothing to anglers, sportsmen and others who spend significant periods outdoors in extremely hot and humid conditions. Thus, it is appropriate to consider wide-brimmed, light weight hats, light-weight nylon pants with removable leggings and shorts as Special Clothing pursuant to EPA Order 4800.1 A1.[2]

Only employees who are mobilized to work under the EPA Region 4 Incident Command as Federal On-Scene Coordinator Representatives (FOSCR) or Superfund Clean-Up and Assessment Team (SCAT) members will be authorized to purchase the light-weight nylon pants with removable leggings or light-weight nylon shorts. The pants can only be purchased by employees assigned to the SCAT team or as FOSCRs in two locations from

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[1] The Deepwater Horizon Heat Stress Safety Alert, Heat Stress Management Plan and OSHA Bulletin on Keeping Workers Safe During Oil Spill Response and Cleanup Operations, as well as other OSHA Bulletins and fact sheets are attached to this Memorandum.

[2] Similarly, the Incident Commander has also required that all EPA personnel who are required to wear insignia shirts to switch to white, light grey or beige logo shirts when conducting field activities as the dark blue and green shirts added to the heat stress because the darker colors failed to reflect the sunlight and increased the likelihood of heat stress. Because of the extreme heat conditions, the Incident Command seeks your approval for the acquisition of special clothing pursuant to EPA Order 4800.1 A1, the light-weight pants and shorts described above, and wide-brim, light-weight hats with bandana-flaps to provide additional protection from the sun and reduce the risk of heat stress for EPA employees whose duties involve working outdoors in extreme heat conditions.

the GSA Supply Schedule near the Mobile Incident Command (Daphne, Alabama and Destin, Florida).[3] No other EPA employees, contractors or other personnel are authorized to purchase the pants or shorts. These employees are required to work on the beaches and other coastal areas for 10-12 hours per day, seven days a week for two week rotations. There is little or no shade in these areas and transport vehicles that are being utilized for beach clean-up do not have air-conditioned cabs or any protection from the sun.

Finally, unlike routine EPA acquisitions, the purchase of Special Clothing here is funded with CWA § 311 cost recovery funds. The source of funds and the application of the EPA Orders on Providing Wearing Apparel and OSHA Clothing are explained below.

Clean Water Act § 311. Unlike routine procurement actions, the Deepwater Horizon Oil Spill is also a cost-recovery action under Clean Water Act § 311 where the costs incurred by EPA and the Coast Guard will be recovered from the Responsible Party. All federal response costs are being charged to Pollution Removal Funding Agreement (PRFA) agreements from the U.S Coast Guard for subsequent cost recovery or the Responsible Party is directly paying costs that would normally first be incurred by the federal responders and then charged to the Responsible Party. For example, the Responsible Party is paying for Vessels of Opportunity to provide marine transport for EPA and NOAA scientists and engineers to take water samples from the Gulf and the Responsible Party is also purchasing utility vehicles for the federal personnel overseeing beach clean-up to use while the oversee the clean-up work on the beach. Normally, this would be considered an improper augmentation of the U.S. Coast Guard's (or EPA's) budget, but since CWA § 311(b)(10) makes the removal costs of the oil spill response cost-recoverable, EPA is charging the costs for the Special Clothing to a PRFA between EPA and the Coast Guard. As the Federal On-Scene Coordinator (FOSC), the Coast Guard has assigned EPA to beach clean-up operations, waste management and water, air and waste stream sampling and monitoring duties. The Federal On-Scene Coordinator's Representative (FOSCR) has, as described above, determined that Special Clothing is necessary for the EPA personnel assigned to beach clean-up operations to safely perform their jobs. The costs for the Special Clothing is not being charged to EPA appropriated funds; instead, as described above, the costs for the Special Clothing is being charged to the Responsible Party through a PRFA with the Coast Guard.[4]

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[3] The light-weight, wide-brimmed hats have been bought in bulk for distribution to personnel assigned to work on beach clean-up and oil removal. Because pants and shorts have to fit individual, responders are required to buy those directly under their deployment orders.

[4] Although EPA Region 4 is following applicable federal law and established EPA policy on acquiring protective clothing, CWA § 311 provides that the FOSC, when responding to a discharge of oil from on offshore facility of such size or character as to be a substantial threat to the public health or welfare of the United States (including but not limited to fish, shellfish, wildlife, other natural resources, and the public and private beaches and shorelines of the United States), the FOSC shall direct all Federal, State, and private actions to remove the discharge or to mitigate or prevent the threat of the discharge and, in carrying out this charge, may "act without regard to any other provision of law governing contracting procedures or employment of personnel by the Federal Government." CWA § 311(c)(2)(A) and (B)(i). Here, EPA Region 4 is responding to an oil spill of unprecedented size and scope under an assignment from the FOSC to lead the beach clean-up and land-based oil removal operations. This assignment requires EPA employees to work in hazardous conditions for prolonged periods that could result in exposure to extreme

EPA Order on Providing Wearing Apparel to Employees: EPA's policy (EPA Order 4800.1 A1) for providing wearing apparel for employees addresses three types of wearing apparel: uniforms, "special clothing," and clothing with identifying insignia. The Agency addresses a fourth type of apparel, "protective clothing," under the Occupational Safety and Health Act (OSHA) in EPA Order 1440.1 and EPA's Safety, Health and Environmental Management Program Guide. The apparel in question does not fall under the uniform or clothing with identifying insignia categories and thus those categories will not be discussed.

Special Clothing. Federal employees are generally required to report to work wearing appropriate clothing for their jobs. However, one of the statutory exceptions to this general requirement is 5 U.S.C. § 7903 which states, "[a]ppropriations available for the procurement of supplies and material or equipment are available for the purchase and maintenance of special clothing and equipment for the protection of personnel in the performance of their assigned tasks." In B-193014, January 9, 1979, the Comptroller General found that "special clothing" must meet all three of the following requirements:

1. the item must be "special" and not the type of clothing that an employee would reasonably be expected to provide for himself;

2. the item must be for the Government's benefit in that the employee must need the clothing to perform the work safely and successfully, and the clothing cannot be solely to protect the employee; and

3. the employee using the special clothing must be engaged in hazardous duty.

The Comptroller General has agreed that the following items are allowable "special clothing" in appropriate circumstances: snowmobile suits, helmets, and mittens for personnel required to operate snowmobiles over rough and remote forest terrain; and down-filled parkas for personnel who normally work in warmer climates but are temporarily assigned to perform outdoor activities in extremely cold winter conditions. These temporary duty employees would not be expected to own clothing for extreme environments, and the Comptroller General reasoned that without this clothing they could not physically perform their duties without endangering their health. 63 Comp. Gen 245 (1984).

The test for Special Clothing is met here. First, because of the unprecedented size and scope of the Deepwater Horizon Oil Spill, Region 4 is filling the SCAT and FOSCR ranks with employees from other Regions with much cooler climates and with employees that are not typically assigned to field work. The Deepwater Horizon Oil Spill has

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conditions where heat stress and heat exhaustion are very real possibilities. Under CWA § 311(c)(2)(B), EPA Region 4 could have arguably acquired the protective clothing described above without following the requirements of established EPA policy or the federal statutes described below.

resulted in an unprecedented contamination of beach, coastal, marsh and tidal areas that will require EPA employees to work 10-12 hour shifts, seven days a week for two-week rotations while exposed to extreme heat conditions. Even experienced Region 4 OSCs have not been previously exposed to such long-term exposure to extreme heat conditions. As explained above, these types of light-weight nylon pants and shorts are typically available only at specialty outdoor outfitters and are designed for a niche market of anglers, sportsmen and others who spend significant periods in hot, humid areas exposed to the sun in extreme weather conditions. Thus, it is not reasonable to expect employees to provide the requisite sufficient quantity of light-weight nylon pants with removable leggings or shorts with UV protection and clothing necessary to reduce the possibility of heat exposure for two-week rotations of seven days a week of 10-12 hour shifts for the remainder of the summer.

Second, the conditions on the Gulf Coast during the summer months constitute extreme heat conditions for engaging in prolonged physical activity and exposure to the sun. Daily high temperatures for Pensacola, Florida and the Gulf Coast areas of Alabama and Mississippi average 90 degrees throughout the summer. FOSCR's and SCAT members are required to work outdoors for 10-12 hours a day, seven days a week, for two-week periods while on foot or on beach transport vehicles without protection from the sun and heat. During a four day period in June, before the hottest period of the summer began, the Mobile Sector Incident Command reported over 40 instances of heat exhaustion, heat stress or heat related incidents. Third, and finally, based on the facts described above, the Incident Command has determined that employees working as SCAT members of FOSCRs are working in hazardous conditions that could result in illness or injury if measures to protect the employees from heat stress and heat exhaustion are not taken.

OSHA Protective Clothing. Under the Occupational Safety and Health Act (OSHA) (29 U.S.C. § 668), each agency must have an effective and comprehensive occupational safety and health program which must "acquire, maintain, and require the use of safety equipment, personal protective equipment, and devices reasonably necessary to protect employees." Additionally, Section 19 of OSHA requires the head of an executive agency or department, or an official designated by him or her, to determine items necessary under OSHA and its implementing regulations. The Comptroller General has interpreted OSHA to allow the Government to furnish swamp boots to work in a jungle environment or ski boots for the Forest Service snow rangers. B-187507, December 23, 1976 and 57 Comp. Gen. 379 (1978). The Comptroller General also held that the purchase of steel-toe safety shoes for a supply clerk whose work included movement of heavy objects was authorized under Section 19 of OSHA, if the agency determined that the footwear is determined necessary for safety reasons to protect the clerk from the possibility of foot injury. 67 Comp. Gen. 104 (1987).

Here, the light-weight pants with removable leggings and light-weight, wide-brimmed hats may also satisfy the standards under OSHA for personal protective clothing and equipment. EPA Order 1440.1, May 11, 1998, states that it is the EPA policy for its Senior Managers to provide safe and healthful working conditions for EPA employees. Here, the Incident Command has issued a HASP directing employees working as SCAT

members or as FOSCRs to wear clothing described above to reduce the possibility of heat stress and heat exhaustion. Since the protective hats and light-weight pants were reasonably determined to be necessary for employee safety, the Incident Command believes that these items can also be acquired under EPA Order 1440.1 A1.

Conclusion: EPA beach clean-up and oil removals responders working the Deepwater Horizon Oil Spill are exposed to extreme hot weather conditions with average daily high temperatures over 90 degrees and prolonged exposure to the elements (7 days a week for two week rotations for 10-12 hours a day). Over a four day period in June (before the hottest part of the summer) the Mobile Sector recorded over 40 incidents of heat stress and heat exhaustion among all responders working the clean-up. Beach clean-up and oil removal is projected to continue for the next several months through the hottest part of the summer. As a result the Incident Commander, working with the Safety and Health Officer, determined that minimizing heat stress was a significant concern. Thus the Incident Commander concluded that requiring the use of light-weight nylon pants and shorts, and wide-brimmed, lightweight hats was appropriate to those employees required to work outdoors for prolonged periods. Only the staff required to work in extreme conditions are authorized to purchase the Special Clothing at two locations near the field operations from a vendor listed on the GSA Supply Schedule that provides clothing designed for persons who spend significant periods outdoors in extreme weather environments. The selected clothing is designed to provide UV protection, shed moisture and provide maximum protection from heat stress and thus fits the definition of Special Clothing from EPA Order 4800.1 A1.

Approved:

A. Stanley Meiburg
Acting Regional Administrator
EPA Region 4

7/16/2010
Date

Concurrence:

Walter DiPietro
EPA Region 4 Safety Officer

July 15, 2010
Date

Attachments:

Mobile Sector Incident Report, June 22, 2010

Deepwater Horizon Onshore Task Force Heat Stress Management Plan

Deepwater Horizon Heat Stress Safety Alert

Health and Safety Plan, Deepwater Horizon Oil Spill Response, Mobile, Alabama (Excerpted)

OSHA Advisory on Keeping Workers Safe During the Oil Spill Response and Cleanup Operations

OSHA Advisory on Heat Stress

OSHA Fact Sheet: Protecting Workers from Effects of Heat

OSHA Quick Card: Protect Yourself From Heat Stress

EPA Order 4800.1 A1, EPA Policy for Providing Wearing Apparel for Employees

EPA Order 1400.1, Safety, Health and Environmental Program
(See: http://intranet.epa.gov/ohr/rmpolicy/ads/orders/1440_1.pdf)

Use of Appropriated Funds for Wearing Apparel, Office of General Counsel Opinion, November 7, 2000

Mobile Sector Incident Report, June 22, 2010

Mobile Sector Incident Report

Incident Date	Incident Time	Type	Report Status	Incident Location	State	Description	Date Reported	Report
June 22, 2010	12:30	First Aid	Complete	Mobile IC (Downtowner Cmd Ctr)	Alabama	When employee was passing behind chair hanging backpack fell which she tripped over. Knee was bruised and swelling. EMT provided icepack.	June 22, 2010	IR 0622 1230 Rodriguez.doc
June 21, 2010	14:45	First Aid	Complete	Perdido Pass at Orange Beach (Old Outcast Marina) Distribution Center	Alabama	Employee was decontaminating boats at Perdido Pass. Was on push boat when he was stung by a bee on his left forearm. Employee was allergic to bees did not have his eppie pen went to American Family Care where he was evaluated and received a steroid shot. Employee was relesed back to work.	June 22, 2010	
June 21, 2010	1300	First Aid	Complete	Dauphin Island Distribution Center	Alabama	Employee was doing beach clean up, over heated, cooled down in tent.	June 22, 2010	IR 0621 1330 Hollifield.pdf
June 21, 2010	1330	First Aid	Complete	Dauphin Island Distribution Center	Alabama	Worker felt pain in lower back, was told to slow down in work routine.	June 22, 2010	IR 0621 1330 BUTTS.pdf
June 21, 2010	12:07	First Aid	Preliminary	Dauphin Island Distribution Center	Alabama	Employee was walking the shoreline picking up tar balls, complaining about headache and back pain. EMT gave ibuprofen and recommanded to take the rest of the day off.	June 22, 2010	IR 0621 1207 Blackwell.doc
June 21, 2010	12:00	First Aid	Complete	Dauphin Island Distribution Center	Alabama	Employee was waiting on vessel to return back to work and experienced nausea and vomiting. Seen by EMT and rested the remainder of the day onsite.	June 22, 2010	IR 0621 1200 Finkley.doc
June 21, 2010	11:45	Recordable	Preliminary	Dauphin Island Distribution Center	Alabama	Employee was working on the beach became very weak and could not continue walking. Seen by EMT IV administered, and recommended to see a doctor.Employee has a history of anemia, was released from work follow up pending.	June 21, 2010	IR 0621 1145.doc
June 21, 2010	13:20	First Aid	Preliminary	Point Cadete Marina Distribution Center	Mississippi	Employee was pulling boom, pulled trapezius muscle. EMT monitered vital signs, applied ice, recieved aspirin. Employee did not return to work.	June 22, 2010	IR 0621 1320 RALPHS.doc
June 21, 2010	11:00	Recordable	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Employee was setting up barrier fencing, cutting fencing and slipped, cutting his arm 3-4 inches with razor knife. EMT sent to Baptist Hospital. Received stitches. Returned to work. **Re-classified from First Aid to Recordable 6/22/10**	June 22, 2010	IR 0621 1100 BRUNSON.doc
June 21, 2010	11:00	Recordable	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Employee had not eaten breakfast, began vomiting, dehydrated, blurred vision, and other symptoms of heat stress. Assessed by EMT. IV administered and sent to the hospital. Returned to work following release. **Re-classified from First Aid to Recordable 6/22/10 **	June 22, 2010	IR 0621 1100.doc
June 21, 2010	10:35	Non-Work Related	Complete	Pass Christian Harbor Distribution Center	Mississippi	No injury, employee had a pre existing heart condition. He stated he was having shortness of breath. Supervisor transported him to Henderson Point for our AMR to look at him. Employee refused all treatment.	June 21, 2010	IR 0621 1035.doc
June 21, 2010	10:30	First Aid	Complete	Dauphin Island Distribution Center	Alabama	Employee was doing beach clean up. Had headached received Ibuprofen and rest in a cool location.	June 22, 2010	IR 0621 1030 Bolton.pdf
June 21, 2010	10:00	First Aid	Preliminary	Dauphin Island Distribution Center	Alabama	Employee had cut on arm by the metal cleet while handling boom. Antiseptic and band aid applied.	June 22, 2010	
June 20, 2010	08:30	First Aid	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	The worker was decontaminating to take a break. When taking off gloves rubbed right eye with a contaminated glove. Workers eyes were flushed and was sent to urgent care. Follow up on file.	June 21, 2010	IR 0620 0830 DUDDE.pdf
June 21, 2010	07:45	First Aid	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Employee was bitten on right wrist. Squeezed bite and clear fluid came out. denies difficult breathing or itching. Returned to work.	June 22, 2010	

Mobile Sector Incident Report

Incident Date	Incident Time	Type	Report Status	Incident Location	State	Description	Date Reported	Report
June 21, 2010	07:25	Non-Work Related	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	While on deck, employee reported noticing some soreness to left eye 3-4 days ago, while working in Pascagoula. Eye is red and very irritated. Denies drainage, crusting and deep pain, only surface irritation. Nurse sent him to urgant care. **Re-classified from First Aid to Non Work Related 6/22/10**	June 22, 2010	IR 0621 0725 HAYBERG.doc
June 21, 2010	06:35	First Aid	Complete	Theodore Industrial Park	Alabama	Worker was removing rope from around tarp, which covered boom. The rope fell to the ground. He tripped over the rope, fell and rolled over on his right shoulder which caused him some discomfort. He rested and gradually the shoulder began to feel better. He didn't want to go to the doctor. He was fine the next day.	June 22, 2010	IR 0621 0635 Moss.pdf
June 21, 2010	06:15	Non-Work Related	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Worker woke two days ago and noted soreness to right thumb. Thumb has progressively swollen and is slightly red and he has some discoloration to end of thumb.	June 22, 2010	IR 0621 0615 Dwyer.doc
June 21, 2010	03:00	Near Miss	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Saftey advisor spotted lightening on the beach. SWS supervisor was resistant to our safety personnel and shouted expletives. Sat on hood of car for 30 minutes while safety personnel got his crew off the beach.	June 22, 2010	
June 21, 2010		Non-Work Related	Preliminary	Pascagoula Distribution Center	Mississippi	Left hand received insect bite at hotel, hand swollen with minor pain. Worker transported to Cooper Medical by supervisor to be checked.	June 21, 2010	IR 0621 UNKNOWN TIME.doc
June 20, 2010	16:38	First Aid	Complete		Alabama	Buckle of boom hit elbow and employee , a slight cut on left elbow. Checked by EMT elbow cleaned out	June 22, 2010	IR 0620 0438 DANNER.doc
June 20, 2010	14:00	First Aid	Preliminary	Orange Beach	Alabama	Worker was taking a break in the tent and started complaining about headache, nausea, no vomiting; may be acid reflux. EMT checked vitals, gave him two ibuprofen and told to rest in AC	June 20, 2010	IR 0620 1400.doc
June 20, 2010	13:20	Property Damage	Complete	Task Force 3-Manta Ray	Florida	Vessel "Preferred Marina" was tied off to vessel "Manta Ray" when wake from an unidentified heavy boat speeding by pushed "Preferred Marina" into the "Manta Ray". "Preferred Marina" had damage. No reported damage to the "Manta Ray".	June 22, 2010	IR 0620 1320 Randall.pdf
June 20, 2010	12:42	Recordable	Preliminary	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Worker ate lunch and then complained of nauseated and headache. Given IV and was met by a ambulance that took her to Baptist Hospital.	June 20, 2010	IR 0620 1242.doc
June 20, 2010	12:30	First Aid	Complete	Orange Beach	Alabama	Eight employees ate turkey sandwiches for lunch, experience sweating, stomach cramps, nausea, diarrhea. All seen by EMT, ok to return to work.	June 20, 2010	eight sick people, alabama.pdf
June 20, 2010	12:00	Non-Work Related	Complete	Dauphin Island Distribution Center	Alabama	Employee was sitting under the break tent, states that he had a brief blackout and a migraine headache. EMT examined the employee and recommended that he go to the doctor ASAP. He insisted on not going to the doctor. The employee was escorted to the doctor by Interstate supervisor, all of his job identification was confiscated by Interstate supervisor.	June 20, 2010	IR 0620 1200.doc
June 20, 2010	10:00	Near Miss	Complete	Pascagoula Distribution Center	Mississippi	Dumping cooking oil	June 20, 2010	IR 0620 1000.doc
June 20, 2010	09:49	Near Miss	Complete	Orange Beach	Alabama	Employee sitting under the tent for break. His chair broke while leaning back in it. He fell backwards, but was not injured.	June 20, 2010	IR 0620 0949.doc
June 20, 2010	09:30	Recordable	Preliminary	Bayou La Batre	Alabama	Worker was loading boom material from the supply boat to an air boat and was stung by a queen bee. Right side of neck is swollen. Was treated for insect bite on the boat and was transported to camp for further treatment. Employee is being transported to the hospital.	June 20, 2010	IR 0620 0930.pdf

Incident Date	Incident Time	Type	Report Status	Incident Location	State	Description	Date Reported	Report
June 20, 2010	09:30	Lost Time	Complete	Gulfport Boat Ramp Distribution Center	Mississippi	Employee walking on slippery seawall during observation. She slipped, right foot had swelling and discoloration. Complained throbbing and tenderness to touch. Ice applied on site. Sent to Orange Grove X-Rays taken with inconclusive results. Perscribed 50MG Naproxen. Ordered to stay off foot until 6-25-2010 at minimum.	June 22, 2010	
June 20, 2010	09:09	Recordable	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Worker experienced symptoms of heat stress. Went to the nurse, cooled down and given oral fluids. Kept slipping in and out of consciousness and was transported by ambulance to the hospital. ** Re-classified from First Aid to Recordable 6/22/10**	June 21, 2010	IR 0620 0909.pdf
June 20, 2010	08:40	Non-Work Related	Complete	Gulfport Boat Ramp Distribution Center	Mississippi	The incident occurred off site, patient complained of right of right foot pain. Says she injured herslef off worksite at home. Ice was applied and person sent home for the day.	June 20, 2010	IR 0620 0840.doc
June 20, 2010	08:30	First Aid	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Worker on the beach, experienced heat stress symptoms. Had not eaten breakfast and had taken asprin on a empty stomach. Was given oral fluids and cooled down then sent home for the rest of the day.	June 20, 2010	IR 0620 0830.pdf
June 20, 2010	0730	Near Miss	Complete	Orange Beach	Alabama	A loose rope off of boom tie down tangled up in the propeller. No injury.	June 20, 2010	IR 0620 0730.doc
June 20, 2010	0700	First Aid	Complete	Orange Beach	Alabama	Employee was doing beach ops and started to feel nausea. EMT took vitals. BP and pulse were elevated.	June 20, 2010	IR 0620 0700.doc
June 20, 2010	06:30	First Aid	Complete	Pascagoula Clear Harbor	Mississippi	Employee eating breakfast, walking between tables, tripped on a case of powerade in aisle. EMT applied an ice pack, returned to work.	June 20, 2010	IR 0620 0630.doc
June 20, 2010	06:00	Recordable	Preliminary	USCG Station Destin Distribution Center	Florida	Employee was boarding the boat for deployment. Laceration and contusion to the right eye, fracture to the eye orbit socket. Signed refusal for transport. Friend took him to hospital. Doctor gave pain medication, ER was in search of plastic surgeon. Follow up pending.	June 21, 2010	IR 0620 0600 Doudna.pdf
June 20, 2010	05:15	First Aid	Complete	Theodore Industrial Park	Alabama	Cleaning spilled material from flat bed truck less than one gal. Employee had slight redness and rash on upper chest and neck area. Seen by paramedics no treatment needed.	June 22, 2010	IR 0620 0515 McDuff.doc
June 20, 2010		First Aid	Verbal	Orange Beach	Alabama	Worker had a headache, seen by EMT. Worker sent home. Follow up pending.	June 20, 2010	
June 20, 2010		First Aid	Verbal	Orange Beach	Alabama	Employee had a headache and nausea. Being evaluated by EMT. Follow up pending.	June 20, 2010	
June 20, 2010		First Aid	Complete	Fort Morgan	Alabama	Worker was overexposed to the sun, has been sent home for the rest of the day and was advised to put hydrocortisone cream on her rash.	June 20, 2010	IR 0620 UNKNOWN HEATON.doc
June 19, 2010	23:45	First Aid	Complete	Port St. Joe Mini Staging and Decontamination Site	Florida	Employee felt stinging and burning on both hands. While on break she had been bitten on the hand by a few ants. Was seen by EMT who applied a medicated anti-itch cream.	June 21, 2010	IR 0619 2345.doc
June 19, 2010	20:00	First Aid	Preliminary	Mobile IC (Downtowner Cmd Ctr)	Alabama	Worker did not feel well during lunch facial color was not normal EMT took blood pressure and EKG readings. Worker went home in private vehicle follow up pending.	June 21, 2010	IR 0619 2000.doc
June 19, 2010	17:30	Non-Work Related	Preliminary	Port St. Joe Mini Staging and Decontamination Site	Florida	Employee went home he asked brother to take him to the hospital because he was not feeling well. During Transport to the hospital the EMT administered 3 bags of fluid for dehydration. Still waiting on test results from neurologist. Follow up pending.	June 22, 2010	IR 0619 1730.doc

Mobile Sector Incident Report

Incident Date	Incident Time	Type	Report Status	Incident Location	State	Description	Date Reported	Report
June 19, 2010	16:00	First Aid	Complete		Alabama	Worker was on beach patrol. Had first degree sunburn to right arm and right side of face. Worker had been resting in transport van. Started to go back to work when she felt tingling in her right ear and arm. EMTs checked her and told her to remain out of the sun for the rest of the day.	June 19, 2010	IR 0619 1600.doc
June 19, 2010	15:15	First Aid	Complete	Fort Morgan	Alabama	While on beach patrol, worker was feeling dizzy and nauseated. Vitals taken by EMT and they were normal. Worker told EMT he had eaten lunch too quickly. He was released back to work after a short rest period.	June 19, 2010	IR 0619 1515.doc
June 19, 2010	14:33	First Aid	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	The employee was working and experienced the symptoms of heat stress. She fainted on the beach. Was taken to the nurse, given fluids and cooled down. She was then transported by ambulance to the hospital.	June 20, 2010	IR 0619 0233.doc
June 19, 2010	14:00	First Aid	Complete	Orange Beach	Alabama	Cleaning beach, reported nuasea, dizziness, not sweating, no headache, urinating normally. EMT administered water and rest in AC, vitals ok.	June 20, 2010	IR 0619 1400.doc
June 19, 2010	13:45	First Aid	Complete	Orange Beach	Alabama	Employee felt ill after eating lunch, started vomiting. EMT took vitals.	June 20, 2010	IR 0619 1345.doc
June 19, 2010	13:35	Recordable	Complete	Orange Beach	Alabama	Employee was working on the beach. Reported he was not sweating and not urinating. EMT administered IV, rest in AC.	June 20, 2010	IR 0619 1335.doc
June 19, 2010	12:30	First Aid	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Employee working in the sun with no cover, even while on breaks. He experienced heat rash on his right and left arms (itching and burning) Said would take medicine when got home from work and will start wearing long sleeve shirts.	June 20, 2010	IR 0619 1230.doc
June 19, 2010	12:30	First Aid	Complete	Orange Beach	Alabama	Worker was on beach patrol. Complaining of headache, weakness, lightheaded; pre-existing cough; lip bothering him. EMT checked vitals, sugar was low. He was placed in AC and given food and fluids. Possible respiratory track infection two weeks ago.	June 20, 2010	IR 0619 1230.doc
June 19, 2010	12:15	Recordable	Complete	Pensacola Area	Alabama	Employee was on his way from Pensacola to Mobile. Accident in rental car taken to emergency room in Pensacola. IV administered, perscribed medication and CT scan.	June 22, 2010	
June 19, 2010	11:30	First Aid	Complete	Fort Morgan	Alabama	Worker was on beach patrol and experienced nausea. He drank a bottle of water and a bottle of Gatorade. He then vomited. EMT took vitals. After eating lunch, worker was released to return to work.	June 19, 2010	IR 0619 1130.doc
June 19, 2010	11:30	First Aid	Preliminary	Orange Beach	Alabama	Employee was cleaning the beach. complaining of dizziness, light headed, chest discomfort. EMT gave aspirin, BP was high. Recommended doctor visit.	June 20, 2010	IR 0619 1130 JAMISON.doc
June 19, 2010	11:00	Non-Work Related	Complete	Orange Beach	Alabama	Worker was doing beach cleanup, when he reported feeling dizzy. Supervisor took him to EMS. Worker refused treatment by EMS and left via transport van back to the hotel. Supervisor considered him M.I.A. Contact was made 1 hour later. Worker was instructed to visit a doctor concerning his medication reacting to sunlight. Worker will try to get moved to night ops or different medication.	June 19, 2010	IR 0619 1100 Kelley.doc
June 19, 2010	11:00	Non-Work Related	Complete	Fort Morgan	Alabama	Worker had just finished a 20 minute work rotation of beach patrol. Complained of chest pain. EMT checked her vitals. Blood pressure was elevated. EKG was normal. She was given nigroglycerin but refused an IV and transport to a hospital. Taken home by her supervisor.	June 19, 2010	IR 0619 1100.doc
June 19, 2010	11:00	Non-Work Related	Preliminary	Orange Beach	Alabama	Employee complained about chest pains for two days and shortness of breath. Complained to co-worker and she reported it. EMT gave oxygen and called ALS for medical transport. "revised changed from recordable to non worked related 06/21"	June 20, 2010	IR 0619 1100 DARVY.doc
June 19, 2010	11:00	First Aid	Complete	Orange Beach	Alabama	Employee was in the tent putting correct PPE on to go out to work, complaining about persistent headache, dizziness, threw up before work after eating breakfast. EMT gave him tylenol, hydrated, and cooled.	June 20, 2010	IR 0619 1100 JONES.doc

Incident Date	Incident Time	Type	Report Status	Incident Location	State	Description	Date Reported	Report
June 19, 2010	10:50	Near Miss	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Between decon area and ERM trailer, Eagle SWS attempted to lift office trailer using an inappropriate tool. Instead of using a roll-off truck, they used a forklift. This caused the load to be unstable and cause the potential for injury or property damage. ERM/Sub called for stop works but management of forklift did not stop work. The office trailer was set down safely. ERM management to consult with Eagle/Obriens management on stop work authority.	June 19, 2010	IR 0619 1050.pdf
June 19, 2010	10:40	First Aid	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Worker was launching the boat and slipped due to wet boots. Treated with ice and off feel for two hours.	June 20, 2010	IR 0619 1040.doc
June 19, 2010	10:30	First Aid	Complete	Orange Beach	Alabama	Employee was cleaning the beach. Started complaining of symptoms; include not sweating, headache, nausea, weak, dizzy, and lightheaded. EMT gave ice pack and he hydrated and rested.	June 20, 2010	IR 0619 1030.doc
June 19, 2010	10:10	First Aid	Complete	Orange Beach	Alabama	Chaffing between the thighs. EMT recommended treatment with topical ointment or powder. Will return to work.	June 19, 2010	IR 0619 1010.doc
June 19, 2010	10:10	Near Miss	Complete	Point Cadete Marina Distribution Center	Mississippi	While setting the anchor, a deckhand fell overboard when two boats came together. No injuries. Pulled from water and returned to shore for dry clothes. Returned to work.	June 19, 2010	IR 0619 1010.doc
June 19, 2010	09:50	First Aid	Preliminary	Orange Beach	Alabama	Employee arrived to work with a headache, self medicated with aleve prior to arrival onsite. EMT took vitald and made to rest in the AC for 30 minutes.	June 19, 2010	IR 0619 0950.doc
June 19, 2010	09:30	First Aid	Complete	Bay St. Louis Distribution Center	Mississippi	While a worker was loading supplies on the boat, became overheated, feeling weak and dizzy. Was sat down, cooled off, hydrated, and rested for one hour.	June 20, 2010	IR 0619 0930.doc
June 19, 2010	09:20	First Aid	Complete	Bay St. Louis Distribution Center	Mississippi	Worker was cleaning beach and complained of headaches. AMR/EMS assessment made. Vitals taken. Released to supervisor. Rested and returned to work.	June 19, 2010	IR 0619 0920.doc
June 19, 2010	09:14	Recordable	Preliminary	Bay St. Louis Distribution Center	Mississippi	Worker was cleaning the beach. Started complaining of headaches and being to hot. EMS took vitals, IV, transported to Hancock CO. Medical Center.	June 20, 2010	IR 0619 0914.doc
June 19, 2010	09:00	Spill	Complete		Mississippi	Five gallons of diesel gasoline spilled behind Clean Harbors tent. The material was cleaned up.	June 20, 2010	IR 0619 0900.doc
June 19, 2010	08:31	Recordable	Complete	Bay St. Louis Distribution Center	Mississippi	Worker was cleaning the beach and started to complain of nausea and being hot. EMS took vitals signs, IV, transported to Hancock Co. Medical Center. Released and told to take 3 days off and return to work.	June 20, 2010	IR 0619 0831.doc
June 19, 2010	08:06	Near Miss	Complete	Pascagoula Distribution Center	Mississippi	PPE trailer was relocated. Rear door was opened and materials had shifted to rear, and shelving collapsed.	June 19, 2010	IR 0619 0806.doc
June 19, 2010	08:00	First Aid	Complete	Port St. Joe Mini Staging and Decontamination Site	Florida	Worker was waiting for boat crew to leave. Complained about feeling sick and was vomiting at times, shaking uncontrolably. Worker had a few drinks the night before. EMT sent him back to the hotel to rest and drink fluids.	June 20, 2010	IR 0619 0800.doc
June 19, 2010	07:15	Recordable	Complete		Florida	The worker was sent to the ER on 6/16 for a severe rash. He is still itching all over. Prescribed antibiotics. **Re-classified from First Aid to Recordable 6/22/10**	June 20, 2010	IR 0619 0715 PETERS.doc
June 19, 2010	07:15	First Aid	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Employee was working and complained about radiating pains in his back. Went to nurse, recommended that he go home and go to urgent care. He went home for the day.	June 20, 2010	IR 0619 0715.doc
June 19, 2010	06:58	Non-Work Related	Complete	Orange Beach	Alabama	Worker came to work sick, had not begun work yet. Complained of nuasea and vomiting. EMT checked vitals.	June 19, 2010	IR 0619 0658.doc

Mobile Sector Incident Report

Incident Date	Incident Time	Type	Report Status	Incident Location	State	Description	Date Reported	Report
June 19, 2010	01:50	First Aid	Complete	Fort Morgan	Alabama	Worker was getting out of the van to finish beach cleanup. Minor laceration on left thumb. EMS iced area, advised to go get a tetanus shot within the next few day. Released back to work.	June 20, 2010	IR 0619 1350.doc
June 19, 2010	01:42	First Aid	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Employee placed a catfish head in baggie, "barb" punctured bag and poked worker in leg during transport (walking). Refused medicine and says going to take some when he get home and he will start wearing long sleeve shirts.	June 20, 2010	IR 0619 0142.doc
June 19, 2010	0115	First Aid	Preliminary	Pascagoula Miller Site	Mississippi	Worker was aboard barge being pushed by vessel eating lunch. He had symptoms of heat stress. Moved to shade, cooled down, hydrated, and brought back to docks.	June 20, 2010	IR 0619 0115.doc
June 19, 2010	00:05	First Aid	Complete	Port St. Joe Mini Staging and Decontamination Site	Florida	Worker felt light headed and dizzy. Checked out by EMT on-site and released back to work.	June 19, 2010	IR 0619 0005.doc
June 19, 2010		First Aid	Complete	Pascagoula Miller Site	Mississippi	Employee was doing boom maintenance. Rash on face, applied sunscreen to face yesterday and was allergic to compound. EMT checked vitals, returned to work.	June 20, 2010	IR 0619 MCBRIDE.doc
June 18, 2010	22:57	First Aid	Complete	Orange Beach	Alabama	Complaints of headache. EMTs evalutated, gave tylenol and water. After rest returned to work.	June 19, 2010	IR 0618 2257.doc
June 18, 2010	21:00	Near Miss	Complete	Port St. Joe Mini Staging and Decontamination Site	Florida	6 guys were walking towards the fueling station and notice an extension cord on fire. One of the guys unplugged the cord.	June 21, 2010	IR 0618 2100.doc
June 18, 2010	16:40	First Aid	Complete	Orange Beach	Alabama	Worker was on the beach and complained of a headache. EMT placed him under a tent to cool and re-hydrate.	June 19, 2010	IR 0618 1640.doc
June 18, 2010	16:00	Recordable	Complete	Orange Beach	Alabama	Worker was on the beach and started to feel dizy and lightheaded. EMT administered IV and she was ordered to take a break.	June 20, 2010	IR 0618 1600.doc
June 18, 2010	15:15	Non-Work Related	Complete	Orange Beach	Alabama	Off job injury from hot radiator cap. 1st degree burn on neck and 2nd degree on abdomen. Worker asked EMS to look at it. Employee was informed he requires a Doctors Return to Work Form signed.	June 19, 2010	IR 0618 1515.doc
June 18, 2010	15:00	First Aid	Complete	Theodore Industrial Park	Alabama	Laborer was loading a truck. Complaints of pain in the back of his neck. EMT checked employee and instructed him to rest and return to work.	June 19, 2010	IR 0618 1500.doc
June 18, 2010	14:57	First Aid	Complete	Orange Beach	Alabama	Worker was on beach patrol. Complaining of chest pains and difficulty breathing. EMT sent him to AC tent to rehydrate and rest.	June 20, 2010	IR 0618 1457.doc
June 18, 2010	12:45	First Aid	Complete	Theodore Industrial Park	Alabama	Complaints of overheating. Seen by paramedic. Rested, cooled, and returned to work.	June 19, 2010	IR 0618 1245.doc
June 18, 2010	12:30	First Aid	Complete	Orange Beach	Alabama	Worker started vomiting after lunch. EMT took vitals and had employee sit in AC for the remainder of the day. Return to work tommorrow.	June 20, 2010	IR 0618 1230.doc
June 18, 2010	12:15	First Aid	Complete	Orange Beach	Alabama	Worker was under the tent and nose started to bleed and had a headache. EMT gave aleve and his blood pressure was high. He is prescribed BP meds.	June 20, 2010	IR 0618 1215.doc
June 18, 2010	11:30	Near Miss	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	There were not sufficient port-a-lets for the amount of workers deployed to the work area. The ones that were there were a 45 minute walk and overfull and it became a hazard. The job was stopped.	June 20, 2010	
June 18, 2010	11:00	Near Miss	Complete	Allen's Dockside Marina - Carabelle, FL (on standby per OPS and BP Safety	Florida	During task meeting the vessel drifted into the sand as the tide was going out and became grounded.	June 19, 2010	IR 0618 1100.pdf

Incident Date	Incident Time	Type	Report Status	Incident Location	State	Description	Date Reported	Report
June 18, 2010	10:55	First Aid	Complete	Orange Beach	Alabama	Worker was doing beach patrol. Felt nausea, looked pale, complaining of feeling in this manner all morning. EMT checked vitals and everything was fine. EMT recommended he go home and rest for the day.	June 19, 2010	IR 0618 1055.doc
June 18, 2010	10:36	Near Miss	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Worker was driving a UTV beneath the rack line and through the tar balls.	June 20, 2010	
June 18, 2010	10:30	First Aid	Complete	Theodore Industrial Park	Alabama	Worker was holding break drum while punching in lugs. Received two small lacerations to right forearm. Paramedic cleaned and bandaged area.	June 19, 2010	IR 0618 1030.doc
June 18, 2010	10:15	First Aid	Preliminary	Orange Beach	Alabama	Worker was laying down pipe. Started to complain about a migraine, severe sweats.EMT checked vitals (good) and hydrated.	June 19, 2010	IR 0618 1015.doc
June 18, 2010	08:30	First Aid	Complete	Theodore Industrial Park	Alabama	Cramping and nausea was experienced by worker. Paramedic checked employee. Rested and returned to work.	June 19, 2010	IR 0618 0830.pdf
June 18, 2010	08:20	First Aid	Complete	Dauphin Island Distribution Center	Alabama	Employee was picking up debris along the beach shoreline. Was complaining about stomach cramps yesterday work shift; he sais he was feeling fine this morning. While working this morning on the beach he started complaining about stomach cramps again and said he had vomited. Was treated by the EMT and diagnosed with dehydration. Employee was sent home for remainder of the day.	June 19, 2010	IR 0618 0820.doc
June 18, 2010	08:20	First Aid	Preliminary	Orange Beach	Alabama	Worker was cleaning the beach when started to complain about headache, high blood pressure. EMT recommended visit to hospital, vitals taken. Employee supervisor transported to Gulf Coast Urgent care.	June 20, 2010	IR 0618 0820 Gaston.doc
June 18, 2010	07:30	First Aid	Preliminary	Panama City to Pensacola	Florida	Employee was walking down the beach making tar ball observations and stepped off onto an uneven surface at the high water line slightly rolling his right ankle. Ice applied to ankle by employee who failed to report the incident until 3:45	June 19, 2010	IR 0618 0730.doc
June 18, 2010	0730	Motor Vehicle	Complete	Port St. Joe Mini Staging and Decontamination Site	Florida	Truck carring berm turned to short and stationary boat trailer fender caught bumper of truck causing rear bumper damage. Police report not filed due to settling on site between both parties	June 21, 2010	IR 0618 0730 MILLER.doc
June 18, 2010	01:00	First Aid	Complete	Orange Beach	Alabama	Employee had a severe headache for the last hour;has been drinking water. Was given tylenol, which did not help, and then sent to EMT. EMT checked vitals.	June 19, 2010	IR 0618 0100.doc
June 17, 2010	16:40	Non-Work Related	Complete	Orange Beach	Alabama	Employee came to work with a stomach virus. EMT took vitals (which were good) but was sent home for the day.	June 19, 2010	IR 0617 1640.doc
June 17, 2010	13:30	First Aid	Complete	Orange Beach	Alabama	During luch time employee complained about chest pains. EMT checked vitals and found no shortness of breath. Worker stayed in cool area untill returned to work.	June 19, 2010	IR 0617 1330.doc
June 17, 2010	13:00	First Aid	Complete	Bayou Chico Pensacola Swift Oil & Gas (Patterson)	Florida	Employee was picking up tar balls. Stated he overworker himself and experienced signs of heat stress. Was re-hydrated, cooled down and rested then went home for the day.	June 19, 2010	IR 0617 1300.doc
June 17, 2010	12:11	First Aid	Complete	Orange Beach	Alabama	Worker received rash after wearing rubber gloves. EMT ordered worker to wash hands for 15 minutes; and rest until hands cleared up.	June 19, 2010	IR 0617 1211.doc
June 17, 2010	0600	Non-Work Related	Complete	Theodore Industrial Park	Alabama	Worker was on docks on decon. Both legs below knees and above ankles. Rash not sure how rash developed. Paramedic looked at rash, no medical treatment given. Employee said he will visit outside doctor.	June 20, 2010	IR 0617 0600.doc
June 17, 2010	01:30	First Aid	Complete	Orange Beach	Alabama	Worker was doing beach patrol. Swelling under her right under arm; appears to be a bug bite. EMT gave ice and cleaned with alcohol.	June 19, 2010	IR 0617 0130.doc
June 17, 2010	01:00	First Aid	Complete	Orange Beach	Alabama	Woker doing beach patrol. Complaining of headache, dizziness, voited, clammy. EMT gave worked oxygen and tylenol. Worker was sent home to rest.	June 19, 2010	IR 0617 0100.doc

Mobile Sector Incident Report

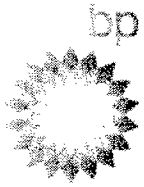
Incident Date	Incident Time	Type	Report Status	Incident Location	State	Description	Date Reported	Report
June 16, 2010	12:30	First Aid	Complete	Orange Beach	Alabama	Worker waiting for job to start and complained about feeling dizzy and having a headache. EMT cooled. hydrated and gave aspirin.	June 19, 2010	IR 0616 1230.doc
June 15, 2010	12:00	First Aid	Complete	Orange Beach	Alabama	Employee was cleaning beach experienced mild heat stress, weakness , and headache. EMT checked cooled, hydrated, and moitored.	June 22, 2010	
June 15, 2010	11:15	First Aid	Preliminary	Orange Beach	Alabama	Employee on main deck. Cut left thumb, 1inch long. Treated with antiseptic. Was transpoted to medical center.	June 22, 2010	
June 15, 2010	09:30	First Aid	Complete	Orange Beach	Alabama	Employee doing beach patrol. Mild heat stress, weakness, dizziness, and headache. EMT checked vitals and monitored, left to cool and hydrate.	June 22, 2010	
June 14, 2010	07:00	First Aid	Complete	Orange Beach	Alabama	Worker applied sunblock to arm. Bumps appeared on arm after application. Seen by EMT. EMT recommended Benadryl topical cream be applied to affected area.	June 19, 2010	IR 0614 0700.doc
June 13, 2010	13:00	First Aid	Complete	Orange Beach	Alabama	Worker was on beach patrol, felt lightheaded and dizzy. EMT administered and ice pack.	June 19, 2010	IR 0613 1300 Hudson.doc
June 13, 2010	12:30	First Aid	Prelimnary	Fairhope Beach Ops	Alabama	Employee noticed bite after lunch. Bite on right lower calf. Checked vitals, applied alcohol to clean wound, took to doctor.	June 22, 2010	
June 13, 2010	11:00	Non-Work Related	Preliminary	Orange Beach	Alabama	Employee was eating lunch and started feeling bad. Started breaking out in a sweat. Worker had a seizure medication taken: Phenitoin-XOE-EXT). EMT accompaniment to Baldwin Hospital.	June 19, 2010	IR 0613 1100.doc
June 13, 2010	10:00	Near Miss	Complete	Orange Beach	Alabama	Worker was rolling absorbent cloth out on dock, stepped backwards off dock. He was immediatly pulled from water. No injury.	June 19, 2010	
June 13, 2010		First Aid	Preliminary	Orange Beach	Alabama	Worker was doing beach cleanup. Water blister on left forearm, Heat rash. No use of sunscreen. Benadryl applied.	June 19, 2010	IR 0613 unknown Price.doc
June 12, 2010	16:30	First Aid	Prelimnary	Orange Beach	Alabama	Worker was wrapping boom around pier. Hurt left side rib. EMT reffered the worker to the ER.	June 19, 2010	IR 0612 1630.doc
June 12, 2010	13:30	Non-Work Related	Complete	Orange Beach	Alabama	Stomach started hurting after lunch and feet swelled. Throbbing pain in lower left abdomen. Worker stated that shes not supposed to eat lettuce but accidentally did the day before.	June 19, 2010	IR 0612 1330.doc
June 12, 2010	10:46	First Aid	Complete	Orange Beach	Alabama	Employee was on beach patrol and started complaining about headache; heat exhaustion; lack of breakfast. EMT gave aspirin and a cool down break.	June 19, 2010	IR 0612 1046.doc
June 12, 2010	10:45	First Aid	Complete	Orange Beach	Alabama	Worker was typing on his computer, walked out of trailer and threw up.EMT took vitals, gave fluid to drink and told worker to rest in AC.	June 19, 2010	IR 0612 1045.doc
June 12, 2010	08:30	First Aid	Complete	Orange Beach	Alabama	Employee was cleaning the beach. Stated she felt sick to her stomach, burning and watering of the eyes. Vitals and sugar were taken.	June 19, 2010	IR 0612 0830.doc
June 11, 2010	13:00	First Aid	Complete	Orange Beach	Alabama	Laborer had headache. Seen by EMT, instructed to rest under tent. Released back to work.	June 19, 2010	IR 0611 1300.doc
June 11, 2010	13:00	First Aid	Complete	Orange Beach	Alabama	Worker was on the beach at Cotton Bayou, was hot and sweating profusely. Seen by paramedics. Vitals taken. Given Gatorade and rest. Released to return to work.	June 19, 2010	IR 0611 1300 Williams.doc
June 11, 2010	12:16	First Aid	Complete	Orange Beach	Alabama	Complained of being hot, tired, and having a dry mouth. Seen by EMT, required to rest. Returned to work after adequate rest.	June 19, 2010	IR 0611 1216.doc
June 18, 2010	11:15	First Aid	Complete		Alabama	Worker had headache. EMT took vitals. Required rest in air conditioned tent until after lunch, rehydrated.	June 19, 2010	IR 0618 1115.doc
June 11, 2010	10:15	First Aid	Preliminary	Orange Beach	Alabama	Employee was doing bech cleanup, started complaining about heat and dehydration; cramping above stomach.	June 19, 2010	
June 11, 2010	09:20	First Aid	Complete	Orange Beach	Alabama	Employee was closing bag and complained of burning nose, headache, and nauseated. EMT checked vitals and sent employee away for fresh air.	June 19, 2010	IR 0611 0920.doc
June 11, 2010	08:50	Non-Work Related	Complete	Orange Beach	Alabama	On the beach in Little Lagoon Pass, worker reported swollen ankles. Seen by EMT and sent to hospital for Xrays. Worker had slight strain to ankle per hospital and was given a few days to heal. Worker reported that he had hurt his ankle prior to coming to work on 6/10/10.	June 19, 2010	IR 0611 0850.doc

Deepwater Horizon Onshore Task Force Heat Stress Management Plan

Deepwater Horizon
Onshore Clean-up Task Force
Heat Stress Management Plan
DATE: June 8, 2010

Unified Command Approvals:

FOSC	**Date:** 8 June 10
SOSC	**Date:** 8 June 10
Incident Commander	**Date:** 8 June 2010



Deepwater Horizon
Onshore Clean-up Task Force
Heat Stress Management Plan

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Authority:	Incident Commander/Unified Command	**Issuing Dept:**	Safety Officer – Houma
Scope:	MC 252 - Houma		
Revision Date:	N/a	**Page:**	1 of 8

1.0 Introduction

1.1 Purpose

This plan is designed to reduce the risk of heat related disorders for the employees working On-Shore and Near-Shore clean-up operations in Louisiana.

1.2 Acronyms and Definitions

PPE - Personal Protective Equipment

HSM – Heat Stress Manager

HSA – Heat Stress Advisor

2.0 Heat Stress Management Plan

2.1 Rest Areas

Supervisors will review work locations for pre-existing shade areas. Teams will set up shade structures at the beginning of the shift and relocate them as workers move. Shade must be located within 100 yards of the work activity at all times. There must be enough shade available to accommodate the number of workers planned to be on their rest cycle at any one time.

2.2 Personal Protective Equipment

Refer to the PPE matrix in Appendix B based on the type of work you are doing.

2.3 Work/Rest Cycle

The work/rest cycle is a method of decreasing heat stress. The work rest plan for this action was developed in conjunction with Dr. Robert M. Bourgeois who is Board Certified in Occupational Medicine. This plan was designed to provide simple rules that can be easily implemented.

The work schedule will be based on 20 minute intervals. The HSA will use an air horn or other effective means to notify workers of the beginning and end of each interval.

Table 1 Heat Stress Management Plan Work Schedules	
Work Schedule for Employees "not" using Protective[1] Coveralls or Respiratory Protection	
40/20	Employees can work 40 minutes of every hour with 20 minutes spent at rest in the shade.
Work Schedule for Employees who are using Protective Coveralls or Respiratory Protection	
20/40	Employees can work 20 minutes of every hour with 40 minutes spent at rest in the shade.

[1] Can apply to Dupont Pro-Shield 1 or similar; Tychem QC or similar

* If at any time during the course of work, an employee feels signs or symptoms of heat disorder, they should immediately be moved to shaded area and consume liquids.

2.4 Acclimatization

- A gradual physiological adaptation that improves one's ability to tolerate heat stress – evaporation of sweat
- Exposure guidelines assume workers are: healthy; un-medicated; heat acclimatized; and adequately hydrated.
- Acclimatization is a gradual process where the body adjusts to more stressors and heat levels. The body benefits from a smaller increase in body temperature, heart rate and increased sweat production while working in heat.
- Workers new to working in a hot environment, workers returning after 3 weeks of cooler weather, or returning after being sick will acclimatize by working 10 minutes per hour on days 1 and 2. On days 3 and 4, the work time can be increased to 15 minutes per hour. (with Dupont ProShield or TyChem)
- Workers new to working in a hot environment, workers returning after 3 weeks of cooler weather, or returning after being sick will acclimatize by working 20 minutes per hour on days 1 and 2. On days 3 and 4, the work time can be increased to 25 minutes per hour. (without Dupont ProShield or TyChem)

2.5 Training and Capability

Individuals performing onshore clean-up will be trained (verbally) prior to work in the:

- Hazards of heat stress
- Signs and symptoms
- Factors that may put them at risk (e.g. age, obesity, drug-use, alcohol)
- Responsibilities
- Use of protective clothing and equipment
- First-aid procedures

In addition, OSHA safety fact cards will be distributed.

2.6 Fluid Replacement

The water needed to replace body fluids varies among individuals, but generally workers should drink at **least** a liter of water for each hour of their shift. Water is the preferred liquid for preventing heat stress but from time to time it is necessary to replace electrolytes. When providing sports drinks it is imperative that the liquids other than water be low sugar options, such as Gatorade G2.

Workers should be encouraged to drink water prior to work, and avoid drinks with caffeine, alcohol, or large amounts of sugar, like soft drinks.

Lighter foods are recommended over heavy meals. Eat smaller meals at more frequent eating intervals.

2.7 Worker Protection

At a minimum the following worker protection should be used:

- Sun screen with SPF 50 should be applied to face, ears, neck, lips and any exposed skin. It should be reapplied at least every two hours.
- Hats that are broad-brimmed are preferable to baseball caps.
- Clothing should be light-colored, loose, and made of natural fabrics (e.g. cotton)
- Specific PPE where required (Glove, Boots and Dupont ProShield or TyChems)

3.0 Heat Related Disorders

There are several heat-related disorders and of them heat stroke is the most serious and can result in death. However it is important to be able to recognize the symptoms of all heat-related disorders, so information on the symptoms and immediate treatment for each heat-related disorder is provided for you in Appendix B.

4.0 Roles and Responsibilities

4.1 Heat Stress Manager (HSM)

- This employee will oversee operations of the HSA's and the implementation of the heat stress management plan. He will provide information and support to the HSA's and act as the liaison for Safety Officer at Houma Unified Command.

4.2 Heat Stress Advisor (HSA)

- Advise task force members based on the requirements of this management program.
- Prior to assigning tasks, the **HSA** must:
  - Describe tasks and job demands that may include, but are not limited to;
    - Working in hot weather with PPE (e.g. Dupont ProShield or TyChem suit, gloves, boots)
    - Walking and bending to pick up light objects
    - Heavy labor using shovels/pitch forks (e.g. for sand and tar balls)
    - Heavy lifting and pulling (e.g. stringing sweep boom)
    - Lifting weights up to 40lbs
  - Advise the individuals that they must be in good health and able to perform the general labor skills described
  - Specifically ask if people are able to perform the expected tasks
    - If someone indicates that they cannot perform the requirements of the assignment (or is otherwise **clearly** unable to perform the job), the HSA must look for alternate assignments that the person is capable of performing. If an alternate assignment is not available, the HSA should meet with the individual and ask if there is an assignment the individual believes he or she can do. We do not need to make significant modifications to any assignment but must consider reasonable requests for modifications that would allow the employee to perform the core job functions. If no alternative position is available or modifications possible, the individual should be released.

APPENDIX A

Heat Stroke

Heat stroke is the most serious heat-related disorder. It occurs when the body becomes unable to control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. When heat stroke occurs, the body temperature can rise to 106 degrees Fahrenheit or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not given.

Symptoms

Symptoms of heat stroke include:

- Hot, dry skin (no sweating)
- Hallucinations
- Chills
- Throbbing headache
- High body temperature
- Confusion/dizziness
- Slurred speech

First Aid

Take the following steps to treat a worker with heat stroke:

- Call 911, notify their supervisor and make arrangement for transportation to medical facility identified in the Medical Plan (IAP Form 206).
- Move the sick worker to a cool shaded area.
- Cool the worker using methods such as:
  - Soaking their clothes with water.
  - Spraying, sponging, or showering them with water.
  - Fanning their body.

Heat Exhaustion

Heat exhaustion is the body's response to an excessive loss of the water and salt, usually through excessive sweating. Workers most prone to heat exhaustion are those that are elderly, have high blood pressure, and those working in a hot environment.

Symptoms

Symptoms of heat exhaustion include:

- Heavy sweating
- Extreme weakness or fatigue
- Dizziness, confusion
- Nausea
- Clammy, moist skin
- Pale or flushed complexion
- Muscle cramps
- Slightly elevated body temperature
- Fast and shallow breathing

First Aid

Treat a worker suffering from heat exhaustion with the following:

- Have them rest in a cool, shaded or air-conditioned area.
- Have them drink plenty of water or other cool, nonalcoholic beverages.
- Have them take a cool shower, bath, or sponge bath.

Heat Syncope

Heat syncope is a fainting (syncope) episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization.

Symptoms

Symptoms of heat syncope include:

- Light-headedness
- Dizziness
- Fainting

First Aid

Workers with heat syncope should:

- Sit or lie down in a cool place when they begin to feel symptoms.
- Slowly drink water, clear juice, or a sports beverage.
- If they have or are fainting, then Call 911, notify their supervisor and make arrangement for transportation to medical facility identified in the Medical Plan (IAP Form 206).

Heat Cramps

Heat cramps usually affect workers who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture levels. Low salt levels in muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion.

Symptoms

Muscle pain or spasms usually in the abdomen, arms, or legs

First Aid

Workers with heat cramps should:

- Stop all activity, and sit in a cool place.
- Drink clear juice or a sports beverage.
- Do not return to strenuous work for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention if any of the following apply:
  - The worker has heart problems.
  - The worker is on a low-sodium diet.
  - The cramps do not subside within one hour.

Heat Rash

Heat rash is a skin irritation caused by excessive sweating during hot, humid weather.

Symptoms

Symptoms of heat rash include:

Heat rash looks like a red cluster of pimples or small blisters.

It is more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases.

First Aid

Workers experiencing heat rash should:

- Try to work in a cooler, less humid environment when possible.
- Keep the affected area dry.
- Dusting powder may be used to increase comfort.

APPENDIX B

Task Number	Cleanup Technique	Description & Requirements	Hard Hat	Safety Glasses	Rubber Boots	Nitrile 26-40 mil Heavy Use	Nitrile 11-26 mil Light Use	Steel-Toe Leather	Snake Boots	DuPont ProShield 1 or similar	Tychem QC or SL or similar	Slicker Suits (rain)	PFD	Hearing Protection	Leather Gloves	Face Shield	Safety Goggles	Kevlar Sleeves	Respirator w/ VOC and P100 Filters	FRC DuPont Limitedwear Nomex Disposable	Chest Waders/Hip Boots	Life Vest or life jacket (USCG approved)	Boat or deck shoes with traction	Wet suit or shirt and long pants or overalls
#1	Manual Scraping (Beach Clean Up)	Oil is scraped from substrate manually using hand tools. Foot or light vehicular access	(1)	X	X	NA	X (liner)	NA	NA	X	NA	NA	(2)	NA	(4) (outer)	NA	NA	NA	NA	NA	NA	NA	NA	NA
#2	Sump and pump/ vacuum	Oil collects in sump as it moves down the beach and is removed by pump or vacuum truck. Requires recovery equipment	X	X	X	NA	X	X	NA	NA	X	NA	(2)	X	(4)	(4)	(4)	NA	NA	NA	NA	NA	NA	NA
#3	Manual removal of oiled materials	Oiled sediments and debris are removed by hand, shovels, rakes, wheelbarrows, etc. Foot or light vehicular traffic.	(1)	X	X	X	NA	NA	NA	NA	X	(3)	(2)	NA	(4)	NA	NA	NA	NA	NA	NA	NA	NA	NA
#4	Low pressure flushing (Decon Operations)	Low pressure water spray flushes oil from substrate, it is channeled to recovery points. Light vehicular traffic, recovery equipment	X	X	X	NA	X	NA	NA	NA	X	(3)	(2)	X	(4)	X	(4)	NA	NA	NA	NA	NA	NA	NA
#5	Manual sorbent application (Beach Clean Up)	Sorbents are applied manually to contaminated areas to soak up oil. Disposal containers for sorbents, foot or boat access.	(1)	X	X	NA	X	NA	NA	NA	X	NA	(2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
#6	Manual cutting	Oiled vegetation is cut by hand, collected and stuffed into bags or containers for disposal. Deploy plywood sheets for foot traffic	(1)	(4)	(5)	X	NA	(5)	NA	NA	X	NA	(2)	NA	X	NA	(4)	X	NA	NA	(4)	NA	NA	NA
#7	In-Situ Burning	Upwind end of contaminated area is ignited to burn to down-wind end. Light vehicular or boat access, fire control equipment.	(1)	X	(5)	NA	NA	(5)	NA	NA	NA	NA	(2)	NA	NA	NA	NA	NA	NA	X	NA	NA	NA	NA
#8	Vacuum trucks, vacuum pumps or portable skimmers	Oil collects in sumps behind booms or natural depressions and is removed by vacuum trucks, vacuum pumps or portable skimmers	X	X	X	(4)	X (liner)	NA	NA	NA	X	NA	(2)	X	(4)	(4)	(4)	NA	NA	NA	NA	NA	NA	NA
#9	Oil Mop	Various size units used onshore or with shallow draft jon boats in water with little or no current. Boat or light vehicle access.	(1)	X	(5)	NA	X	NA	NA	NA	X (shore)	NA	(2)	NA	(4)	NA	NA	NA	NA	NA	NA	NA	NA	NA
#10	Recovery of oil from ground water groundwater	Contaminated oil is pumped out. Heavy equipment access.	X	X	X	NA	X	NA	NA	NA	X	NA	NA	NA	X	NA	NA	NA	NA	NA	NA	NA	NA	NA
#11	Marsh / Non-Shore Clean-up Operations	SCAT-Pollution Investigation. Workers board small boats and patrol marshes and bayous to search for oil impact. Workers will not be physically cleaning.	X	X	(4)	(4)	(4)	X	(4)	NA	NA	NA	(2)	(4)	(4)	NA	NA	NA	NA	NA	NA	NA	NA	NA
#12	Skimming Operations (water)	Use of on water skimming resources to remove oil from the water. Both USCG and Contract Skimming vessels will be used	(1)	X	X (or steel toe leather with covers)	X	NA	X (w/ covers or steel shanked rubber boots)	NA	NA	X	NA	X	X	NA	NA	(4)	NA	X (only if req'd based off air monitoring)	NA	NA	NA	NA	NA
#13	High Pressure Cleaning (Decon Operations)	High pressure (>3000 psi) water spray flushes oil from substrate. It is channeled to recovery points. Light vehicular traffic, recovery equipment,	X	NA	X	X	NA	NA	NA	NA	(4)	X	(2)	X	NA	X	X	NA	X (only if req'd based off air monitoring)	NA	NA	NA	NA	NA
#14	Manual Removal of solid tar balls (if no other oil dispersant is present)	Solid Tar Balls or tar pattys are removed using shovels, rakes and buckets, ect. Foot or light vehicle traffic	(1)	X	X	NA	(4)	NA	NA	NA	NA	NA	NA	NA	X	NA	NA	NA	NA	NA	NA	NA	NA	NA
#15	On Shore Support (shallow water jetski operations)	Pre-task setup and pre-op checks and launching. Handling of taglines, pulling boom and tendering.	X	X	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	X	NA	(4)	NA	NA	NA	NA	X	X	X
#16	A Float Support Shallow waters Jetski operations- (NOT FOR ANCHOR DEPLOYMENT)	Handling of Taglines, pulling boom and boom tendering	Hard impact kayak helemt	X (secured)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	(4)	NA	(4)	NA	NA	NA	NA	high visability/ high impact	Ridged bottom Swim or tennis shoes, dive boots	X

Equivalent PPE can be substituted as long as it meets or exceeds the original specified product.

(1) Required only when overhead hazards are present.

(2) Portable floating device (PFD) is required when working on water, docks, barges, boats, piers.

(3) Optional if it's raining or liquid saturation is likely.

(4) Based on risk.

(5) Steel-toed boots required based on worksite conditions

NA - Not Applicable

Deepwater Horizon Heat Stress Safety Alert

208 Heat Stress Safety Alert		
TO: All Personnel assigned to Deepwater Horizon Response		
FROM: Unified Area Command	**POSITION:** SOFR	
SUBJECT: HEAT STRESS SAFETY – Emphasis and Behavior Modification	**DATE:** 08 JUN 2010	**Time:** 1300 hrs

1.0 PURPOSE AND SCOPE

Heat stress has been one of the primary incident causes during the last two weeks…we need your help to reduce/mitigate this risk; and a part of that journey is collectively raising our awareness and modifying our behaviors to manage Heat Stress.

The purpose of this safe work practice is to ensure that response personnel understand the hazards and know the requirements for minimizing incidents related to or attributed to heat stress Response personnel include all Federal employees, BP employees, Contractors, Visitors, and other third parties. These requirements and recommendations are for response operations and are not intended to replace site or project-specific incident and emergency response procedures and policies. The ultimate purpose is to establish a clear set of practices for avoiding and reducing heat stress as a safety risk associated with response operations.

2.0 RESPONSIBILITIES

All personnel involved in the response who are personally involved in, or supervise operations should receive training, and understand the signs, symptoms and effects of heat stress as it pertains to all operations as communicated via each applicable 208 and to ensure it is available in the field, as designed based upon this standing order. The site safety officer, responsible manager, captain of the vessel, etc., for any task should communicate this message daily, and issue a reminder prior to each task. Specific messages related to HEAT STRESS are attached to 208 Specific Safety Plans and can be found under the operational IC 208. Examples include:

- Cargo Loading/Unloading
- Staging Operations
- Boating and Boom Deployment
- Shoreline Operations and Beach Cleaning
- Boat Decon Ops
- Others as identified.

3.0 REQUIREMENTS

HEAT STRESS....NOT JUST A CHECK BOX ON THE 208

All personnel should understand the factors related to heat stress but just as important we need to monitor and promote behavior modification to augment the Heat Stress Message.

Factors Leading to Heat Stress - Factors contributing to heat stress can include high temperature and humidity, direct sun or heat, limited air movement, physical exertion, poor physical condition, some medicines, insufficient hydration and inadequate tolerance for hot workplaces.

Behavior Modification - Personal Behavior can greatly influence susceptibility to heat stress. Hydration is a continuous process for the body and should be emphasized during morning safety briefing and reminders should be made periodically during the work shift. How can you help?

Are you aware of the major factors which can lead to Heat Stress?

High temperature and humidity, direct sun or heat, limited air movement, physical exertion, poor physical condition, some medicines, insufficient hydration and inadequate tolerance for hot workplaces.....are you aware of any others?

What you can do to modify your personal behaviors in relation to heat stress?

Hydration is a continuous process for the body and should be done consistently and continuously throughout the day

ALCOHOL CAN DEHYDRATE YOU....MANAGE YOUR INTAKE!

Food does not equal water: fruits and other liquids are not a substitute for water. Sodas and juices my speed dehydration and are not a substitute for water. Drink WATER!!!

Be aware of the visual signs/symptoms of heat-related illnesses, I.e. flushed skin, excessive sweating.

Do not ... "Gut it out" if you exhibit symptoms .....**use shade, drink lots of water, at least 1 cup every 15 minutes,** maximize on rest periods when required

Use the Buddy System...Choose a partner to be your monitor on a daily basis**.....Use simple questions to gauge heat stress such as ... "What is Your Mother's Name?"; "How Old are You?"...** these can be used to measure potential confusion in co-workers.

4.0 Forms

Heat Stress

Protect Yourself from Heat Stress

When the body is unable to cool it's self by sweating, several heat-induced illnesses, including heat stress, heat exhaustion, and the most severe, heat stroke, can occur and result in death.

A FLAGGING SYSTEM FOR WARNINGS AND INDICATIONS OF HEAT STRESS WILL BE IMPLEMENTED BY COAST GUARD PERSONNEL FOR USE AND CONSIDERATION FOR WORK IN ALL AREAS. PLEASE REFERENCE THE FOLLOWING PAGES FOR RECOMMENDED WORKLOAD/REST CYCLES.

Factors Leading to Heat Stress

Factors contributing to heat stress can include high temperature and humidity, direct sun or heat, limited air movement, physical exertion, poor physical condition, some medicines, and inadequate tolerance for hot workplaces.

Symptoms of Heat Exhaustion

- Headaches, dizziness, lightheadedness, or fainting.
- Muscle cramps or pain
- Paleness, Weakness and moist skin.
- Mood changes such as irritability or confusion.
- Upset stomach or vomiting.

Symptoms of Heat Stroke

- Flushed, dry, hot skin with no sweating.
- Mental confusion, dizziness or losing consciousness.
- Seizures or convulsions.

Preventing Heat Stress

- Know signs/symptoms of heat-related illnesses and monitor yourself and coworkers.
- Block or stay out of direct sunlight or other heat sources.
- Use cooling fans or air-conditioning and rest regularly.
- Drink lots of water, at least 1 cup every 15 minutes.
- Wear lightweight, light colored, loose-fitting clothes.
- Avoid alcohol, caffeinated drinks, or heavy meals.

WORKLOAD/REST CYCLE & WET BULB GLOBE TEMP (° F)
Continuous work LIGHT < °86, MED < °80, HEAVY < °77
Work 50 minutes/rest 10 minutes LIGHT °87, MED °82, HEAVY °78
Work 30 minutes/rest 15 minutes LIGHT °89, MED °85, HEAVY °82
Work 30 minutes/rest 15 minutes LIGHT °90, MED °88, HEAVY °86
SUSPEND ALL ACTIVITIES LIGHT > °90, MED > °90 HEAVY > °90

What to Do for Heat-Related Illness

- **Call 911 (or local emergency number) at once.**
- Move the worker to a cool, shaded area.
- Loosen or remove heavy clothing.
- Provide cool drinking water.
- Fan and mist the person with water.

ADHERE TO WORKLOAD/REST CYCLE REQUIREMENTS SEE ATTACHMENT PAGES

Heat Index Chart

How to read the chart: Find the temperature on the left hand side, and then move to the right until you find the column for the approximate relative humidity. That number will be the temperature that it will "feel" like or Heat Index. Not to be confused with Wet Bulb Globe Temperature which is used to determine work/rest cycles.

Example: A temperature of 95 and relative humidity of 50% will "feel" like 107 degrees. Add up to 15 degrees if in the direct sun.

		R	E	A	L	A	T	I	V	E		H	U	M	I	D	I	T	Y			%
		0	*5*	*10*	*15*	*20*	*25*	*30*	*35*	*40*	*45*	*50*	*55*	*60*	*65*	*70*	*75*	*80*	*85*	*90*	*95*	*100*
T	*140*	125																				
E	*135*	120	128																			
M	*130*	117	122	131																		
P	*125*	111	116	123	131	141																
E	*120*	107	111	116	123	130	139	148														
R	*115*	103	107	111	115	120	127	135	143	151												
A	*110*	99	102	105	108	112	117	123	130	137	143	150										
T	*105*	95	97	100	102	105	109	113	118	123	129	135	142	149								
U	*100*	91	93	95	97	99	101	104	107	110	115	120	126	132	138	144						
R	*95*	87	88	90	91	93	94	96	98	101	104	107	110	114	119	124	130	136				
E	*90*	83	84	85	86	87	88	90	91	93	95	96	98	100	102	106	109	113	117	122		
	85	78	79	80	81	82	83	84	85	86	87	88	89	90	91	93	95	97	99	102	105	108
F	*80*	73	74	75	76	77	77	78	79	79	80	81	81	82	83	85	86	86	87	88	89	91
	75	69	69	70	71	72	72	73	73	74	74	75	75	76	76	77	77	78	78	79	79	80
	70	64	64	65	65	66	66	67	67	68	68	69	69	70	70	70	71	71	71	71	71	72

WORKLOAD/REST CYCLE & WBGT (° F) **WBGT – Wet Bulb Globe Temperature**	**WATER and WORK RECOMMENDATIONS**
Continuous work LIGHT < °86, MED < °80, HEAVY < °77	1 pint of water with meals, 1 pint every hour and 1 pint with every exertion. Extremely intense physical exertion may precipitate heat exhaustion/heat stroke, therefore, caution should be taken.
Work 50 minutes/rest 10 minutes LIGHT °87, MED °82, HEAVY °78	1 pint of water with meals, 1 pint every hour and 1 pint with every exertion. Discretion required in planning heavy exercise for unseasoned personnel. This is a marginal heat stress limit for all personnel.
Work 30 minutes/rest 15 minutes LIGHT °89, MED °85, HEAVY °82	1 pint of water with meals, 1 pint every hour and 1 pint with every exertion. Strenuous exercise and activity (e.g., close order drill) should be curtailed for new and unseasoned personnel during the first 3 weeks of heat exposure.
Work 30 minutes/rest 15 minutes LIGHT °90, MED °88, HEAVY °86	1 pint of water with meals, 1 pint every hour and 1 pint with every exertion. Strenuous exercise curtailed for all personnel with less than 12 weeks training in hot weather.
SUSPEND ALL ACTIVITIES LIGHT > °90, MED > °90 HEAVY > °90	1 pint of water with meals, 1 pint every hour and 1 pint with every exertion. **Physical training and strenuous exercise suspended for all personnel (excludes operational commitment not for training purposes).**

Personnel wearing PPE protective clothing should add 10 points to the measured WBGT. Limits and Times of Work should be adjusted accordingly.

PLEASE DISCUSS DAILY | **POST IN CONSPICOUS AREA**

Health and Safety Plan, Deepwater Horizon Oil Spill Response, Mobile, Alabama (Excerpted)

HEALTH AND SAFETY PLAN
DEEPWATER HORIZON OIL SPILL RESPONSE
MOBILE, ALABAMA

Prepared for
Unites States Environmental Protection Agency, Region 4
61 Forsyth Street, SW, 11th Floor, Atlanta, Georgia, 30303

Contract No.:	EP-W-05-054
Work Assignment No.:	TTEMI-001-0127
Date Prepared:	June 23, 2010
Prepared by:	EPA and Tetra Tech EM Inc. (Tetra Tech) (Cris D'Onofrio and Chris A. Baggot)
EPA Incident Commanders:	Chris Russell, On-Scene Coordinator Terry Stilman, On-Scene Coordinator
Telephone Nos.:	(404) 229-9613/(678) 576-6440
Tetra Tech Incident Commander:	Chris Jones
Telephone No.:	(404) 395-5220

REVIEWS AND APPROVALS
CLIENT NAME: U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 4
CONTRACT NO.: EP-W-05-054
DEEPWATER HORIZON OIL SPILL RESPONSE
MOBILE, ALABAMA

We the undersigned have read and approve of the health and safety guidelines presented in this health and safety plan for on-site work activities at the Deepwater Horizons Oil Spill Response.

Name	Signature	Date
Chris Russell EPA Incident Commander		
Steve Spurlin Deputy Incident Commander		

This certifies that EPA has assessed the type, risk level, and severity of hazards for the project and has selected appropriate personal protective equipment for site personnel in accordance with Occupational Safety and Health Administration Title 29 of the *Code of Federal Regulations*, Part 1910.132.

Certified by

Brian Kovak OSWER DSHEMO		

EMERGENCY INFORMATION
POST ON SITE
EMERGENCY CONTACTS AND ROUTE TO HOSPITAL

Emergency Contact		**Telephone No.**
U.S. Coast Guard National Response Center		(800) 424-8802
InfoTrac Chemical Monitoring System		(800) 535-5053
WorkCare		(800) 455-6155
Fire Department		911
Police Department		911
EPA Personnel		
OSWER DSHEMO, Brian Kovak	(908) 202-9848	
EPA Incident :		
Chris Russell, On-Scene Coordinator		(404) 229-9613
Medical Emergency		
Hospital Name:	Mobile Infirmary Medical Center	
Hospital Address:	5 Mobile Infirmary Circle Mobile, AL	
Hospital Telephone No.:		Emergency – 911 General – (251) 435-2100
Ambulance Telephone No.:		911
Route(s) to Hospital(s): [(see next page hospital route map(s)] 1. From Incident Command Post 2. From USCG STA Gulfport, Mississippi 3. From Dauphin Island		

Note: This sheet must be posted on site.

1.0 INTRODUCTION

Tetra Tech EM Inc. (Tetra Tech) received Work Assignment No. TTEMI-05-001-0127 from U.S. Environmental Protection Agency (EPA), Region 4, under Contract No. EP-W-05-054 and initiated the development of this Health and Safety Plan as part of the Work Assignment. EPA has made modifications and additions to this plan to incorporate EPA and Incident specific requirements.

The Deepwater Horizon MC-252 oil rig was operated by British Petroleum (BP) when it exploded at the well-head located approximately 40 miles off the Louisiana Gulf Coast. The well was damaged by the sinking of the rig, causing a release of crude oil into the Gulf of Mexico that has been on-going since the explosion of April 20, 2010. EPA is currently assisting the US Coast Guard in conducting oversight and environmental monitoring operations at this incident response.

The Region 4 Incident Command Post is located at the Sector Mobile Unified Command at 1087 Downtowner Blvd., Mobile, Alabama. The site-specific health and safety provisions in this document have been developed for use during this incident response for all EPA personnel and EPA contractors conducting activities for the Deepwater Horizon oil spill response. This document addresses items specified under Occupational Safety and Health Administration (OSHA) Title 29 of the *Code of Federal Regulations* (CFR), Part 1910.120 (b), "Final Rule." This health and safety plan (HASP) will be available to all on-site EPA personnel and contractors who may be exposed to hazardous site conditions while participating in EPA response activities including : duties at the Mobile Incident Command (IC) Post; shoreline cleanup oversight; shoreline clean-up assessment activities; and conducting air, water, sediment, waste and weathered oil sampling/monitoring.

The purpose of this HASP is to define requirements and designate protocols to be followed during response activities. EPA and EPA contractor personnel deployed to this incident must be informed of emergency response procedures and any potential fire, explosion, health, or safety hazards associated with incident activities. This HASP summarizes potential hazards and defines planned protective measures for incident activities.

This plan must be reviewed and approved by the EPA Incident Commander and the EPA Incident Safety Officer (SOFR) or designee. The HASP Acknowledgement form in Appendix A must be signed by all EPA and EPA contractor personnel before they engage in field activities. Protocols established in this HASP are based on site conditions and health and safety hazards known or anticipated to be present and

on available incident data. This plan is intended solely for use during proposed activities described in the corresponding site-specific work plan. Specifications herein are subject to review and revision based on actual conditions encountered in the field during incident activities. Significant revisions to this plan must be approved by the EPA Incident Commander and the EPA SOFR

EPA contractors are expected to adhere to the protocols set forth in this HASP during execution of field assignments. Contractor specific protocols should be incorporated into this HASP in the Appendices. Should there be a conflict between the requirements specified in this HASP and contractor-specific requirements, these should be resolved through dialogue between the appropriate contractor health and safety managers and the EPA Incident Commander and SOFR. Procedural changes will be documented in the appropriate Appendices.

This HASP has been developed during the Deepwater Horizon emergency response effort and will be refined and revised on a continuous basis in order to reflect continued hazard assessments, changes in response operations, and environmental conditions.

2.0 HEALTH AND SAFETY PERSONNEL AND PLAN ENFORCEMENT

This section describes responsibilities of project personnel, summarizes requirements for visitors who wish to enter the Deepwater Horizon Oil Spill Response site, and discusses HASP enforcement.

2.1 PROJECT PERSONNEL

The following personnel and organizations are associated with planned activities at the site. The organizational structure will be reviewed and updated as necessary during the course of the project.

Name/Title	Responsibility	Telephone No.
EPA Representatives:		
Chris Russell	On-Scene Coordinator	(404) 229-9613
Terry Stilman	On-Scene Coordinator	(678) 576-6440
Ken Rhame	On-Scene Coordinator	(919) 475-7397
Brian Kovak	National Safety and Environmental Manger	(908) 202-9848

Varies per rotation	Site Safety Officer/Representative	Varies

The EPA Incident Commander and the EPA HSR will be responsible for implementation and enforcement of the provisions of this HASP. Their duties and the expectations for EPA employees are described in the following sections.

2.1.1 EPA Incident Commander

The EPA IC has ultimate responsibility for ensuring implementation of the requirements set forth in this HASP. Some of this responsibility may be achieved through delegation to site-dedicated personnel that report directly to the Incident Commander. The EPA IC shall regularly confer with site personnel regarding safety and health compliance.

The EPA Federal On-Scene Coordinator Representatives (FOSCRs) will oversee field activities and have day-to-day responsibility for ensuring implementation of the HASP for EPA personnel and EPA contractors. The EPA FOSCRs will report directly to the Incident Commander any health and safety-related issues.

2.1.2 Site Safety Officer (SOFR)

The EPA Safety Officer (SOFR) will be appointed by the Incident Commander and will be responsible for field implementation of tasks and procedures contained in this HASP, including conducting safety briefs for incoming personnel, air monitoring, establishing a decontamination protocol if necessary, maintaining the HASP, ensuring EPA personnel review and are familiar with the HASP, and obtaining signatures on the HASP Compliance Agreement (Form HSP-4) (see Appendix A). The SOFR will have advanced field work experience and be familiar with health and safety requirements specific to this response.

2.1.3 OEM DSHEMO/Regional SHEMPS

The EPA Office of Emergency Management (OEM) Designated Safety Health and Environmental Management Official (DSHEMO) is responsible for implementation of the EPA Safety Health and Environmental Management Program (SHEMP) for OEM. The DSHEMO will act in an advisory

capacity to Incident Commanders, the SOFR and the Safety Health and Environmental Management Division (SHEMD) on incident-specific health and safety issues impacting emergency response personnel. The DSHEMO will also assist the ICs and SOFR in making industrial hygiene decisions and ensuring that EPA Safety and Health policies are followed by personnel being deployed to this incident. The roles and responsibilities of the DSHEMO are further described in EPA Order 1440.1 which is available on the Headquarters SHEMD website.

The EPA Safety Health and Environmental Management Program (SHEMP) mangers will also assist the ICs and SOFR in making industrial hygiene decisions and ensuring that EPA Safety and Health policies are followed by personnel being deployed to this incident. SHEMP managers in each EPA region will also ensure that EPA field personnel from their regions are up to date with the appropriate training and medical surveillance requirements prior to being deployed in the field. Additionally, the SHEMP managers ensure that Agency accident, injury and illness reporting procedures are adhered to for regional personnel.

2.1.4 EPA Employees

EPA employees are expected to fully participate in implementing the site HASP by obtaining necessary training, attending site safety meetings, always wearing designated personal protective equipment (PPE), complying with site safety and health rules, and advising the EPA SOFR of health and safety concerns at the site.

2.2 HEALTH AND SAFETY PLAN ENFORCEMENT

This HASP applies to all site activities and all personnel working on the Deepwater Horizon Oil Spill Response. HASP enforcement shall be rigorous. Violators of the HASP will be verbally notified upon first violation, and the violation will be noted by the EPA SOFR in a field logbook. Upon second violation, the violator will be notified in writing, and the EPA IC and the violator's supervisor will be notified. A third violation will result in a written notification and violator's eviction from the site. Personnel will be encouraged to report to the SOFR any conditions or practices that they consider to be detrimental to their health or safety, or that they believe are in violation of applicable health and safety standards. Such reports may be made orally or in writing. Personnel who believe that an imminent danger threatens human health or the environment will be encouraged to bring the matter to the immediate attention of the SOFR for resolution.

At least one copy of this HASP will be available to all site personnel at all times. Minor changes in HASP procedures will be discussed at the beginning of each work day by the SOFR at the daily tailgate safety meeting. Significant plan revisions must be discussed with the HSR and Incident Commander.

3.0 SITE BACKGROUND

The U.S. EPA working with the USCG to oversee operations at the Deepwater Horizon Oil Spill Response along the Gulf Coast. Currently, EPA will assist in oversight of shoreline cleanup operations and will conduct environmental sampling as necessary to augment efforts to monitor the impacts of the spill to the public health and the environment. The following sections describe the Deepwater Horizon Oil Spill Response site, its history, and activities planned for this project.

3.1 SITE DESCRIPTION

The Deepwater Horizon oil rig was located approximately 50 miles from the coast of Louisiana in the Gulf of Mexico. The geographic extent of the site comprises the coasts of Louisiana, Mississippi, Alabama, and the Florida panhandle, as well as large area in the northern half of the Gulf of Mexico. Region 4 EPA is working out of the Sector Mobile Unified Command located at 1087 Downtowner Boulevard, Mobile, Alabama 36602. The land topography of the site is relatively flat. Refer to Figure 3-1, Site Location, and Figure 3-2, Site Layout, for additional information.

TABLE 4-2

TASK HAZARD ANALYSIS
DEEPWATER HORIZON OIL SPILL RESPONSE

Task	Potential Hazard	Controls	Initial Level of Protection	Upgraded Level of Protection
Field Oversight of Shoreline Cleanup	• Exposure to chemicals listed in Table 4-1; • Heavy equipment; • Heat and/or cold stress; • • Sun exposure; • Working over or near water; • Uneven, muddy, sandy, marshy, or rugged terrain; • General slips, trips, and falls; • Heavy lifting; • Vehicle and pedestrian traffic; • Biohazards, including alligators, poisonous animals, poisonous plants, poisonous snakes, ticks, and mosquitoes	**See the appropriate ICS 208 forms in Appendix D.**** Use appropriate safe work practices for field work (SWP 5-1), HAZWOPER (SWP 5-2) working over or near water (SWP 5-6), heat and/or cold stress (SWP 5-15, SWP 5-16), sun exposure (SWP 5-26); Hydrographic Data Collection (SWP 5-22), safe lifting practices (SWP 5-19); working near heavy equipment (SWP 5-7), biohazards (SWP 5-17), and respirator cleaning and use of air purifying respirators (SWP 5-27, SWP 5-28)	Modified Level D ensemble: • Clothing: Light weight clothing/work uniform. • Approved short pants as specified by the IC. • Light weight, wide brim hat • safety glasses when splash hazard present. • Respirator: N/A • Gloves: N/A • Boots: light weight • Other: latex boot covers, hardhat, high-visibility vest, personal floatation device, ear plugs (near heavy equipment), sunscreen, insect repellant, and snake leggings/chaps as needed	• Level C ensemble: • Respirator: full-face air purifying respirator with appropriate P-100 cartridge • Tyvek QC or rain suit as needed to avoid oil contamination • Gloves: nitrile • Boot Covers: Latex

Task	Potential Hazard	Controls	Initial Level of Protection	Upgraded Level of Protection
Air Monitoring	• Exposure to chemicals listed in Table 4-1; • Heavy equipment; • Heat and/or cold stress; • Potential lightening hazards • Sun exposure; • Working over or near water; • Uneven, muddy, sandy, marshy, or rugged terrain; • General slips, trips, and falls; • Heavy lifting; • Vehicle and pedestrian traffic; • Biohazards, including alligators, poisonous animals, poisonous plants, poisonous snakes, ticks, and mosquitoes	**See the appropriate ICS 208 forms in Appendix D.**** Use appropriate safe work practices for field work (SWP 5-1), HAZWOPER (SWP 5-2) working over or near water (SWP 5-6), heat and/or cold stress (SWP 5-15, SWP 5-16), sun exposure (SWP 5-26); Hydrographic Data Collection (SWP 5-22), safe lifting practices (SWP 5-19); working near heavy equipment (SWP 5-7), biohazards (SWP 5-17), and respirator cleaning and use of air purifying respirators (SWP 5-27, SWP 5-28)	• Modified Level D ensemble: • Clothing: Light weight clothing/work uniform. • Approved short pants as specified by the IC. • Light weight, wide brim hat • safety glasses when splash hazard present. • Respirator: N/A • Gloves: N/A • Boots: light weight Other: latex boot covers, hardhat, high-visibility vest, personal floatation device, ear plugs (near heavy equipment), sunscreen, insect repellant, and snake leggings/chaps as needed	• Level C ensemble: • Respirator: full-face air purifying respirator with appropriate P-100 cartridge • Tyvek QC or rain suit as needed to avoid oil contamination • Gloves: nitrile • Boot Covers: Latex
Data Management and GIS	General office safety	Office safety (SWP 5-3)	Work uniform	

Task	Potential Hazard	Controls	Initial Level of Protection	Upgraded Level of Protection
Multi-Media Sampling and SCAT Activities	• Exposure to chemicals listed in Table 4-1; • Heavy equipment; • Heat and/or cold stress; • Sun exposure; • Potential lightening hazards • Working over or near water; • Uneven, muddy, sandy, marshy, or rugged terrain; • General slips, trips, and falls; • Heavy lifting; • Vehicle and pedestrian traffic; • Biohazards, including alligators, poisonous animals, poisonous plants, poisonous snakes, ticks, and mosquitoes	**See the appropriate ICS 208 forms in Appendix D.**** Use appropriate safe work practices for field work (SWP 5-1), HAZWOPER (SWP 5-2) working over or near water (SWP 5-6), heat and/or cold stress (SWP 5-15, SWP 5-16), sun exposure (SWP 5-26); Hydrographic Data Collection (SWP 5-22), safe lifting practices (SWP 5-19); working near heavy equipment (SWP 5-7), biohazards (SWP 5-17), and respirator cleaning and use of air purifying respirators (SWP 5-27, SWP 5-28)	• Modified Level D ensemble: • Clothing: Light weight clothing/work uniform. • Approved short pants as specified by the IC. • Light weight, wide brim hat • safety glasses when splash hazard present. • Respirator: N/A • Gloves: nitrile when contact with oil/dispersant expected • Boots: light weight Other: latex boot covers, hardhat, high-visibility vest, personal floatation device, ear plugs (near heavy equipment), sunscreen, insect repellant, and snake leggings/chaps as needed	• Level C ensemble: • Respirator: full-face air purifying respirator with appropriate P-100 cartridge • Tyvek QC or rain suit as needed to avoid oil contamination • Gloves: nitrile • Boot Covers: Latex

****The ICS 208s are to be used as the primary site-specific safe work practices for the Deepwater Horizons MC-252 Incident. Where conflicts between the ICS 208s, the TetraTech SWPs/EPA policy exist, EPA personnel should consult with the SOFR for resolution.**

3.2 PHYSICAL HAZARDS

Physical hazards associated with site activities present a potential threat to on-site personnel. Dangers are posed by heavy equipment, utility and power lines, potential lightening strikes during frequent thunderstorms, slippery surfaces, unseen obstacles, noise, heat, biohazards, and poor illumination during night operations.

Injuries may result, for example, from the following:

- Accidents caused by slipping, tripping, or falling
- Use of improper lifting techniques
- Moving or rotating equipment
- Equipment mobilization and operation (such as electrocution from contact with overhead or underground power lines)
- Potential lightening strikes
- Biological hazards including animal and insect bites
- Improperly maintained equipment

Injuries resulting from physical hazards can be avoided by using safe work practices (SWP) and employing caution when working with machinery. Specific SWPs applicable to the Deepwater Horizon Oil Spill Response site are listed in Section 9.5 and are provided in Appendices B and D of this HASP. ICS 208 Safety Alerts are also being developed on a continual basis for this response effort. The ICS 208s provide operation specific and hazard specific safe work practices/procedures that are directly related to this response effort and are included in Appendix D. To ensure a safe workplace, the SOFR will conduct and document regular safety inspections and will make sure that all EPA workers and visitors are informed of any potential physical hazards related to the site. Physical hazards that have been identified at this site include the following:

- Exposure to chemicals listed in Table 4-1
- Working over or near water
- Heat stress
- Potential lightening strike

- Sun exposure
- Working near heavy equipment
- Uneven, muddy, or rugged terrain

4.0 TRAINING REQUIREMENTS

All on-site personnel who may be exposed to hazardous conditions and will participate in on-site activities, will be required to meet training requirements outlined in 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response." All personnel and visitors entering the site will be required to review this HASP and sign the Compliance Agreement form (HSP-4), and site workers will be required to attend Daily Tailgate Safety Meetings as required for oversight of activities.

Before being deployed to the field at the Deepwater Horizon MC-252 Incident, all field personnel will attend a safety briefing to be provided as a part of the Incident Check-in procedures. The H&S briefing will be conducted by the EPA SOFR or his/her designee. The following topics will be addressed as applicable during the pre-deployment briefing:

Names of the SOFR and the designated alternate

- Site history
- Work tasks
- Hazardous chemicals that may be encountered on site
- Physical hazards that may be encountered on site
- PPE, including type or types of respiratory protection to be used for work tasks
- Training requirements
- Environmental surveillance (air monitoring) equipment use and maintenance
- Action levels and situations requiring upgrade or downgrade of level of protection
- Site control measures, including site communications, control zones, and SWPs
- Decontamination procedures

- Emergency communication procedures, signals and codes
- Environmental accident emergency procedures (in case contamination spreads outside the exclusion zone)
- Personnel exposure and accident emergency procedures (in case of falls, exposure to hazardous substances, and other hazardous situations)
- Weather conditions and associated hazards
- Fire and explosion emergency procedures
- Emergency telephone numbers
- Emergency routes

Any other health and safety-related issues that may arise before on-site activities begin will also be discussed during the pre-work briefing.

The EPA SOFR should be notified of any H&S issues that arise during implementation of on-site activities. Any changes in procedures or site-specific health and safety-related matters will be addressed via direct communications between the EPA SOFR and EPA field personnel. Changes in procedures may be addressed in ICS 204-As, ICS 208 Safety Alerts, and appendices to this HASP.

5.0 PERSONAL PROTECTION REQUIREMENTS

The levels of personal protection to be used for work tasks at the Deepwater Horizon Oil Spill Response site have been selected based on known or anticipated physical hazards; types and concentrations of contaminants that may be encountered on site; and contaminant properties, toxicity, exposure routes, and matrixes. The following sections describe protective equipment and clothing; reassessment of protection levels; limitations of protective clothing; and respirator selection, use, and maintenance.

5.1 PROTECTIVE EQUIPMENT AND CLOTHING

Personnel will wear protective equipment when (1) site activities involve known or suspected atmospheric contamination; (2) site activities may generate vapors, gases, or particulates; or (3) direct contact with hazardous materials may occur. The anticipated levels of protection selected for use by

field personnel during site activities are listed in Table 4-2, Task Hazard Analysis. Based on the anticipated hazard level, personnel will initially perform field tasks in modified Level D protection. If site conditions or the results of air monitoring performed during on-site activities warrant a higher level of protection, all field personnel will withdraw from the site, immediately notify the SOFR, and wait for further instructions. Descriptions of equipment and clothing required for Level D, Level C, and Level B protection are provided below.

- Modified Level D
  - Light weight, light colored pants and shirt. Short pants as specified and approved by the IC.
  - Chemical-resistant clothing as required (such as Tyvek® or Saranex® coveralls)(optional)
  - Outer gloves (nitrile for weathered product only), if applicable (optional)
  - Disposable inner gloves: nitrile for weather product only (optional)
  - Light weight boots
  - Disposable latex boot covers, if applicable (optional)
  - Safety glasses, if applicable (optional)
  - Light weight sun hat
  - High-visibility vest
  - Class II Personal Floatation Device when on or near the water
  - Hearing protection (for areas with a noise level exceeding 85 decibels on the A-weighted scale)

- Level D (if applicable)
  - Coveralls or work clothes, if applicable
  - Chemical-resistant clothing (such as Tyvek® or Saranex® coveralls)(optional)
  - Outer gloves (nitrile for weathered product only), if applicable
  - Disposable inner gloves (nitrile for weathered product, neoprene for fresh product. For fresh product, neoprene is not for prolonged contact; for protection at decon line only)
  - Boots with steel-toe protection and steel shanks, if applicable
  - Disposable boot covers or chemical-resistant outer boots (optional)
  - Safety glasses or goggles

- Hard hat (face shield optional)
- High-visibility vest
- Class II Personal Floatation Device when on or near the water
- Hearing protection (for areas with a noise level exceeding 85 decibels on the A-weighted scale)

- Level C
  - Coveralls or work clothes, if applicable
  - Chemical-resistant clothing (such as Tyvek® or Saranex® coveralls)
  - Outer gloves: nitrile for weathered product, viton-butyl for contact with fresh product based on benzene/aromatic, if applicable
  - Disposable inner gloves: nitrile for weathered product; neoprene for fresh product
  - Boots with steel-toe protection and steel shanks
  - Disposable boot covers or chemical-resistant outer boots
  - Full- or half-face, air-purifying respirator with National Institute for Occupational Safety and Health (NIOSH)-approved cartridges to protect against organic vapors, dust, fumes, and mists (cartridges used for gas and vapors must be replaced in accordance with the change-out schedule described in the Respiratory Hazard Assessment form [Form RP-2] in Appendix D)
  - Safety glasses or goggles (with a half-face respirator only)
  - Hard hat (face shield optional)
  - Hearing protection (for areas with a noise level exceeding 85 decibels on the A-weighted scale)

5.2 REASSESSMENT OF PROTECTION LEVELS

PPE levels shall be upgraded or downgraded based on a change in site conditions or investigation findings. When a significant change in site conditions occurs, hazards will be reassessed. Some indicators of the need for reassessment are as follows:

- Commencement of a new work phase, such as the start of a significantly different sampling activity or work that begins on a different portion of the site
- A change in job tasks during a work phase
- A change of season or weather

- Temperature extremes or individual medical considerations limiting the effectiveness of PPE
- Discovery of contaminants other than those previously identified
- A change in ambient levels of airborne contaminants (see the action levels listed in Table 8-1)
- A change in work scope that affects the degree of contact with contaminated media

5.3 LIMITATIONS OF PROTECTIVE CLOTHING

PPE clothing ensembles designated for use during site activities have been selected to provide protection against contaminants at known or anticipated on-site concentrations and physical states. However, no protective garment, glove, or boot is entirely chemical-resistant, nor does any protective clothing provide protection against all types of chemicals. Permeation of a given chemical through PPE depends on the contaminant concentration, environmental conditions, physical condition of the protective garment, and resistance of the garment to the specific contaminant. Chemical permeation may continue even after the source of contamination has been removed from the garment.

All site personnel will use the procedures presented below to obtain optimum performance from PPE.

- When chemical-protective coveralls become contaminated, don a new, clean garment after each rest break or at the beginning of each shift.
- Inspect all clothing, gloves, and boots both before and during use for the following:
  - Imperfect seams
  - Non-uniform coatings
  - Tears
  - Poorly functioning closures
- Inspect reusable garments, boots, and gloves both before and during use for visible signs of chemical permeation, such as the following:
  - Swelling
  - Discoloration

- Stiffness
- Brittleness
- Cracks
- Any sign of puncture
- Any sign of abrasion

Reusable gloves, boots, or coveralls exhibiting any of the characteristics listed above must be discarded. Reusable PPE will be decontaminated in accordance with procedures described in Section 10.0 and will be neatly stored in the support zone away from work zones.

OSHA Advisory on Keeping Workers Safe During the Oil Spill Response and Cleanup Operations

Gulf Oil Response and Heat

- The administration is committed to protecting the health and safety of cleanup workers. One of the most serious health hazards facing those involved in the Gulf Oil Spill Response is heat. There have already been over 440 incidents of illnesses from heat among workers involved in the clean up, some very serious.
- From the outset, OSHA has ensured that BP implement a robust program to protect workers from heat stress and heat stroke, a potentially life threatening hazard for people working in the clean up - many of them working 12 hours a day, 7 days a week, wearing chemical resistant tyvek coveralls, boots and gloves, in the hot and humid weather along the Gulf.
- BP has now implemented a heat stress plan at all work sites, that includes a matrix that sets out specific work/rest requirements based on the heat and relative humidity, and whether workers are wearing protective clothing and equipment-which can exacerbate the hazard.
- In addition to the work/rest requirements, BP has implemented other protective measures:
  - Workers are trained in the hazards of heat and the precautions necessary to prevent heat stress
  - Work begins early in the day to take advantage of cooler temperatures.
  - The plan requires that shaded rest areas be provided at all work areas.
  - Workers are required to drink liquids and take rest breaks throughout their work shift.
  - Heat stress monitors are on site at all times to ensure the work/rest regimen is adhered to, that workers are drinking enough to stay fully hydrated and that any workers exhibiting symptoms of heat related illness are immediately given fluids, rest and other appropriate care.
- Every day, over 20 professionals from the Occupational Safety and Health Administration are on the ground throughout the gulf states, monitoring all staging and clean up areas, to make sure workers are protected.

Resources

- Unified Area Command - Heat Stress Safety Alert [PDF]
- On Shore Clean-up Task Force - Heat Stress Management Plan [PDF]

Heat Stress

- QuickCard, PDF / Datos Rapidos, PDF / Vietnamese, PDF (OSHA)

  - **What is Heat Stress:** When the body is unable to cool itself by sweating, several heat-induced illnesses such as heat stress or heat exhaustion and the more severe heat stroke can occur, and can result in death.
  - **Factors leading to Heat Stress:** High temperature and humidity; direct sun or heat; limited air movement; physical exertion; poor physical condition; some medicines; and inadequate tolerance for hot workplaces.
  - **Symptoms of Heat Exhaustion:** Headaches, dizziness, lightheadedness or fainting; Weakness and moist skin; Mood changes such as irritability or confusion; Upset stomach or vomiting.
  - **Symptoms of Heat Stroke:** Dry, hot skin with no sweating; Mental confusion or losing consciousness; Seizures or convulsions.
  - **Preventing Heat Stress:** Know signs/symptoms of heat-related illnesses; monitor yourself and coworkers; Block out direct sun or other heat sources; Use cooling fans/air-conditioning; rest regularly; Drink lots of water; about 1 cup every 15 minutes; Wear lightweight, light colored, loose-fitting clothes; Avoid alcohol, caffeinated drinks, or heavy meals.
  - **What to Do for Heat-Related Illness:** Call 911 (or local emergency number) at once.
  - **While waiting for help to arrive:** Move the worker to a cool, shaded area; Loosen or remove heavy clothing; Provide cool drinking water; Fan and mist the person with water.

  Other Resources:

- Protecting Workers from Effects of Heat Fact Sheet (OSHA)
  - **Factors leading to heat stress.**
  - **What kind of heat disorders and health effects are possible and how should they be treated?**
    - Heat Stroke
    - Heat Exhaustion
    - Heat Cramps
    - Heat Rashes
  - **Administrative or work practice controls to offset heat effects**
    - Acclimatize workers
    - Replace fluids
    - Reduce the physical demands
    - Provide recovery areas
    - Reschedule hot jobs
    - Monitor workers
  - **What personal protective equipment is effective in minimizing heat stress?**
    - Reflective clothing
    - Wetted clothing
    - Water-cooled garments
- Protecting Yourself in the Sun, PDF / Protejase Contra Los Rayos Daninos del Sol, PDF (OSHA)
  - Sunlight contains ultraviolet (UV) radiation, which causes premature aging of the skin, wrinkles, cataracts, and skin cancer. The amount of damage from UV exposure depends on the strength of the light, the length of exposure, and whether the skin is protected.
    There are no safe UV rays or safe suntans.
  - Skin cancer
  - Self-examination
  - Block out UV Rays
    - Cover up
    - Use sunscreen
    - Wear a hat
  - Preventing Skin Cancer
- Working Outdoors in Warm Climates Fact Sheet (OSHA)
- Safety and Health Guide (OSHA)

OSHA Advisory on Heat Stress

Heat Stress

The Occupational Safety and Health Act (OSH Act) requires employers to comply with hazard-specific safety and health standards. In addition, pursuant to Section 5(a)(1) of the OSH Act, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. Emergency Preparedness Guides do not and cannot enlarge or diminish an employer's obligations under the OSH Act.

Emergency Preparedness Guides are based on presently available information, as well as current occupational safety and health provisions and standards. The procedures and practices discussed in Emergency Preparedness Guides may need to be modified when additional, relevant information becomes available or when OSH Act standards are promulgated or modified.

During emergency response activities or recovery operations, workers may be required to work in hot environments, and sometimes for extended periods. Heat stress is a common problem encountered in these types of situations. The following frequently asked questions will help workers understand what heat stress is, how it may affect their health and safety, and how it can be prevented.

Where might I be exposed to heat stress?

Any process or job site that is likely to raise the workers deep core temperature (often listed as higher than 100.4 degrees F (38°C)) raises the risk of heat stress. Operations involving high air temperatures, radiant heat sources, high humidity, direct physical contact with hot objects, or strenuous physical activities have a high potential for inducing heat stress in employees. Indoor operations such as foundries, brick-firing and ceramic plants, glass products facilities, rubber products factories, electrical utilities (particularly boiler rooms), bakeries, confectioneries, commercial kitchens, laundries, food canneries, chemical plants, mining sites, smelters, and steam tunnels are examples of industrial locations where problems can occur. Outdoor operations conducted in hot weather, such as construction, refining, asbestos removal, hazardous waste site activities, and emergency response operations, especially those that require workers to wear semi-permeable or impermeable protective clothing, are also likely to cause heat stress among exposed workers.

Are there additional causal factors for heat stress?

Age, weight, degree of physical fitness, degree of acclimatization, metabolism, dehydration, use of alcohol or drugs, and a variety of medical conditions such as hypertension all affect a person's sensitivity to heat. However, even the type of clothing worn must be considered. Prior heat injury predisposes an individual to additional injury. Individual susceptibility varies. In addition, environmental factors include more than the ambient air temperature. Radiant heat, air movement, conduction, and relative humidity all affect an individual's response to heat.

What kind of heat disorders and health effects are possible and how should they be treated?

Heat Stroke is the most serious heat related disorder and occurs when the body's temperature regulation fails and body temperature rises to critical levels. The condition is caused by a combination of highly variable factors, and its occurrence is difficult to predict. Heat stroke is a medical emergency that may result in death. The primary signs and symptoms of heat stroke are confusion; irrational behavior; loss of consciousness; convulsions; a lack of sweating (usually); hot, dry skin; and an abnormally high body temperature, e.g., a rectal temperature of 41°C (105.8°F). The elevated metabolic temperatures caused by a combination of work load and environmental heat, both of which contribute to heat stroke, are also highly variable and difficult to predict.

If a worker shows signs of possible heat stroke, professional medical treatment should be obtained immediately. The worker should be placed in a shady, cool area and the outer clothing should be removed. The worker's skin should be wetted and air movement around the worker should be increased to improve evaporative cooling until professional methods of cooling are initiated and the seriousness of the condition can be assessed. Fluids should be replaced as soon as possible. The medical outcome of an episode of heat stroke depends on the victim's physical fitness and the timing and effectiveness of first aid treatment.

Regardless of the worker's protests, no employee suspected of being ill from heat stroke should be sent home or left unattended unless a physician has specifically approved such an order.

Heat Exhaustion signs and symptoms are headache, nausea, vertigo, weakness, thirst, and giddiness. Fortunately, this condition responds readily to prompt treatment. Heat exhaustion should not be dismissed lightly. Fainting or heat collapse which is often associated with heat exhaustion. In heat collapse, the brain does not receive enough oxygen because blood pools in the extremities. As a result, the exposed individual may lose consciousness. This reaction is similar to that of heat exhaustion and does not affect the body's heat balance. However, the onset of heat collapse is rapid and unpredictable and can be dangerous especially if workers are operating machinery or controlling an operation that should not be left unattended; moreover, the victim may be injured when he or she faints. Also, the signs and symptoms seen in heat exhaustion are similar to those of heat stroke, a medical emergency. Workers suffering from heat exhaustion should be removed from the hot environment and given fluid replacement. They should also be encouraged to get adequate rest and when possible ice packs should be applied.

Heat Cramps are usually caused by performing hard physical labor in a hot environment. These cramps have been attributed to an electrolyte imbalance caused by sweating. Cramps appear to be caused by the lack of water replenishment. Because sweat is a hypotonic solution (±0.3% NaCl), excess salt can build up in the body if the water lost through sweating is not replaced. Thirst cannot be relied on as a guide to the need for water; instead, water must be taken every 15 to 20 minutes in hot environments. Under extreme conditions, such as working for 6 to 8 hours in heavy protective gear, a loss of sodium may occur. Recent studies have shown that drinking commercially available carbohydrate-electrolyte replacement liquids is effective in minimizing physiological disturbances during recovery.

Heat Rashes are the most common problem in hot work environments where the skin is persistently wetted by unevaporated sweat. Prickly heat is manifested as red papules and usually appears in areas where the clothing is restrictive. As sweating increases, these papules give rise to a prickling sensation. Heat rash papules may become infected if they are not treated. In most cases, heat rashes will disappear when the affected individual returns to a cool environment.

Heat Fatigue is often caused by a lack of acclimatization. A program of acclimatization and training for work in hot environments is advisable. The signs and symptoms of heat fatigue include impaired performance of skilled manual, mental, or vigilance jobs. There is no treatment for heat fatigue except to remove the heat stress before a more serious heat-related condition develops.

What kind of engineering controls can be utilized?

General ventilation dilutes hot air with cooler air (ideally, bringing in cooler outside air) and in is the most cost effective). A permanently installed ventilation system usually can handle large areas or entire buildings. Portable or local exhaust systems may be more effective or practical in smaller areas.

Air treatment/air cooling differs from ventilation because it reduces the temperature of the air by removing the heat (and sometimes humidity) from the air. **Air conditioning** is a method of air cooling which uses a compressed refrigerant under pressure to remove the heat from the air. This method is expensive to install and operate. An alternative to air conditioning is the use of chillers to circulate unpressurized cool water through heat exchangers over which air from the ventilation system is then passed. Chillers are more efficient in cooler climates or in dry climates where evaporative cooling can be used. **Local air cooling** can be effective in reducing air temperature in specific areas. Two methods have been used successfully in industrial settings. One type, cool rooms, can be used to enclose a specific workplace or to offer a recovery area near hot jobs. The second type is a portable blower with built-in air chiller. The main advantage of a blower, aside from portability, is minimal set-up time.

Another way to reduce heat stress is to cool the employee by increasing the air flow or convection using fans, etc. in the work area. This is generally only effective as long as the air temperature is less than the worker's skin temperature (usually less than 95 degrees F dry bulb). Changes in air speed can help workers stay cooler by increasing both the convective heat exchange (the exchange between the skin surface and the surrounding air) and the rate of evaporation. This does not actually cool the air so moving air must impact the worker directly to be effective.

Heat conduction blocking methods include insulating the hot surface that generates the heat and changing the surface itself. Simple devices such as shields, can be used to reduce radiant heat, i.e. heat coming from hot surfaces within the worker's line of sight. Polished surfaces make the best barriers, although special glass or metal mesh surfaces can be used if visibility is a problem With some sources of radiation, such as heating pipes, it is possible to use both insulation and surface modifications to achieve a substantial reduction in radiant heat.

What administrative or work practice controls may be used?

Acclimatize workers by exposing them to work in a hot environment for progressively longer periods. NIOSH (1986) suggests that workers who have had previous experience in jobs where heat levels are high enough to produce heat stress may acclimatize with a regimen of 50% exposure on day one, 60% on day two, 80% on day three, and 100% on day four. For new workers who will be similarly exposed, the regimen should be 20% on day one, with a 20% increase in exposure each additional day.

Replace Fluids by providing cool (50°-60°F) water or any cool liquid (except alcoholic beverages) to workers and encourage them to drink small amounts frequently, e.g., one cup every 20 minutes. Ample supplies of liquids should be placed close to the work area. Although some commercial replacement drinks contain salt, this is not necessary for acclimatized individuals because most people add enough salt to their summer diets.

Reduce the physical demands by reducing physical exertion such as excessive lifting, climbing, or digging with heavy objects. Spread the work over more individuals, use relief workers or assign extra workers. Provide external pacing to minimize overexertion.

Provide recovery areas such as air-conditioned enclosures and rooms and provide intermittent rest periods with water breaks.

Reschedule hot jobs for the cooler part of the day, and routine maintenance and repair work in hot areas should be scheduled for the cooler seasons of the year.

Monitor workers who are at risk of heat stress, such as those wearing semi-permeable or impermeable clothing when the temperature exceeds 70°F, while working at high metabolic loads (greater than 500 kcal/hour). Personal monitoring can be done by checking the heart rate, recovery heart rate, oral temperature, or extent of body water loss.

To check the heart rate, count pulse for 30 seconds at the beginning of the rest period. If the heart rate exceeds 110 beats per minute, shorten the next work period by one third and maintain the same rest period.

The recovery heart rate can be checked by comparing the pulse rate taken at 30 seconds (P1) with the pulse rate taken at 2.5 minutes (P3) after the rest break starts. The two pulse rates can be interpreted using the following criteria.

Heart rate recovery pattern	P3	Difference between P1 and P3
Satisfactory recovery	<90	--
High recovery (Conditions may require further study)	90	10
No recovery (May indicate too much stress)	90	<10

Check oral temperature with a clinical thermometer after work but before the employee drinks water. If the oral temperature taken under the tongue exceeds 37.6°C, shorten the next work cycle by one third.

Measure body water loss by weighing the worker on a scale at the beginning and end of each work day. The worker's weight loss should not exceed 1.5% of total body weight in a work day. If a weight loss exceeding this amount is observed, fluid intake should increase.

Develop a heat stress training program, and incorporate into health and safety plans at least the following components:

- Knowledge of the hazards of heat stress;
- Recognition of predisposing factors, danger signs, and symptoms;
- Awareness of first-aid procedures for, and the potential health effects of, heat stroke;
- Employee responsibilities in avoiding heat stress;
- Dangers of using drugs, including therapeutic ones, and alcohol in hot work environments;
- Use of protective clothing and equipment; and
- Purpose and coverage of environmental and medical surveillance programs and the advantages of worker participation in such programs.

What Personal Protective Equipment is effective in minimizing heat stress?

Reflective clothing, which can vary from aprons and jackets to suits that completely enclose the worker from neck to feet, can reduce the radiant heat reaching the worker. However, since most reflective clothing does not allow air exchange through the garment, the reduction of radiant heat must more than offset the corresponding loss in evaporative cooling. For this reason, reflective clothing should be worn as loosely as possible. In situations where radiant heat is high, auxiliary cooling systems can be used under the reflective clothing.

Auxiliary body cooling Ice vests, though heavy, may accommodate as many as 72 ice packets, which are usually filled with water. Carbon dioxide (dry ice) can also be used as a coolant. The cooling offered by ice packets lasts only 2 to 4 hours at moderate to heavy heat loads, and frequent replacement is necessary. However, ice vests do not tether the worker and thus permit maximum mobility. Cooling with ice is also relatively inexpensive.

Wetted clothing such as terry cloth coveralls or two-piece, whole-body cotton suits are another simple and inexpensive personal cooling technique. It is effective when

reflective or other impermeable protective clothing is worn. This approach to auxiliary cooling can be quite effective under conditions of high temperature, good air flow, and low humidity.

Water-cooled garments range from a hood, which cools only the head, to vests and "long johns," which offer partial or complete body cooling. Use of this equipment requires a battery-driven circulating pump, liquid-ice coolant, and a container. Although this system has the advantage of allowing wearer mobility, the weight of the components limits the amount of ice that can be carried and thus reduces the effective use time. The heat transfer rate in liquid cooling systems may limit their use to low-activity jobs; even in such jobs, their service time is only about 20 minutes per pound of cooling ice. To keep outside heat from melting the ice, an outer insulating jacket should be an integral part of these systems.

Circulating air is the most highly effective, as well as the most complicated, personal cooling system. By directing compressed air around the body from a supplied air system, both evaporative and convective cooling are improved. The greatest advantage occurs when circulating air is used with impermeable garments or double cotton overalls. One type, used when respiratory protection is also necessary, forces exhaust air from a supplied-air hood ("bubble hood") around the neck and down inside an impermeable suit. The air then escapes through openings in the suit. Air can also be supplied directly to the suit without using a hood in three ways: by a single inlet, by a distribution tree, or by a perforated vest. In addition, a vortex tube can reduce the temperature of circulating air. The cooled air from this tube can be introduced either under the clothing or into a bubble hood. The use of a vortex tube separates the air stream into a hot and cold stream; these tubes also can be used to supply heat in cold climates. Circulating air, however, is noisy and requires a constant source of compressed air supplied through an attached air hose. This system tethers the worker and limits his or her mobility. Additionally, since the worker feels comfortable, he or she may not realize that it is important to drink liquids frequently.

Additional Information

- Safety and Health Topics: Heat Stress. OSHA.

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OSHA Fact Sheet: Protecting Workers from Effects of Heat

OSHA FactSheet

Protecting Workers from Effects of Heat

During emergency response activities or recovery operations, workers may be required to work in hot environments, and sometimes for extended periods. When the body is unable to cool itself by sweating, several heat-induced illnesses can occur, and can result in death. The following information will help workers understand what heat stress is, how it may affect their health and safety, and how it can be prevented.

Factors Leading to Heat Stress

- High temperature and humidity; direct sun or heat; limited air movement; physical exertion; poor physical condition; some medicines; inadequate tolerance for hot workplaces; and insufficient water intake can all lead to heat stress.

What kind of heat disorders and health effects are possible and how should they be treated?

- **Heat Stroke** is the most serious heat related disorder and occurs when the body's temperature regulation fails and body temperature rises to critical levels. It is a medical emergency that may result in death. The primary signs and symptoms of heat stroke are confusion; irrational behavior; loss of consciousness; convulsions; a lack of sweating (usually); hot, dry skin; and an abnormally high body temperature. If a worker shows signs of possible heat stroke, professional medical treatment should be obtained immediately. Until professional medical treatment is available, the worker should be placed in a shady, cool area and the outer clothing should be removed. Douse the worker with cool water and circulate air to improve evaporative cooling. Provide the worker fluids (preferably water) as soon as possible.
- **Heat Exhaustion** is only partly due to exhaustion; it is a result of the combination of excessive heat and dehydration. Signs and symptoms are headache, nausea, dizziness, weakness, thirst, and giddiness. Fainting or heat collapse is often associated with heat exhaustion. Workers suffering from heat exhaustion should be removed from the hot environment and given fluid replacement. They should also be encouraged to get adequate rest, and when possible, ice packs should be applied.
- **Heat Cramps** are usually caused by performing hard physical labor in a hot environment. Heat cramps have been attributed to an electrolyte imbalance caused by sweating and are normally caused by the lack of water replenishment. It is imperative that workers in hot environments drink water every 15 to 20 minutes and also drink carbohydrate-electrolyte replacement liquids (e.g., sports drinks) to help minimize physiological disturbances during recovery.
- **Heat Rashes** are the most common problem in hot work environments where the skin is persistently wetted by unevaporated sweat. Heat rash looks like a red cluster of pimples or small blisters. It is more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases. The best treatment for heat rash is to provide a cooler, less humid environment. Keep the affected area dry. Dusting powder may be used to increase comfort, but avoid using ointments or creams—they keep the skin warm and moist and may make the condition worse.

Administrative or work practice controls to offset heat effects

- **Acclimatize workers** by exposing them to work in a hot environment for progressively longer periods.
- **Replace fluids** by providing cool water or any cool liquid (except alcoholic and caffeinated beverages) to workers and encourage them to

drink small amounts frequently, e.g., one cup every 20 minutes. Ample supplies of liquids should be placed close to the work area.

- **Reduce the physical demands** by reducing physical exertion such as excessive lifting, climbing, or digging with heavy objects. Use relief workers or assign extra workers, and minimize overexertion.
- **Provide recovery areas** such as air-conditioned enclosures and rooms and provide intermittent rest periods with water breaks.
- **Reschedule hot jobs** for the cooler part of the day, and routine maintenance and repair work in hot areas should be scheduled for the cooler seasons of the year.
- **Monitor workers** who are at risk of heat stress, such as those wearing semi-permeable or impermeable clothing when the temperature exceeds 70°F, while working at high energy levels. Personal monitoring can be done by checking the heart rate, recovery heart rate, and oral temperature.

What Personal Protective Equipment is effective in minimizing heat stress?

- **Reflective clothing**, worn as loosely as possible, can minimize heat stress hazards.
- **Wetted clothing**, such as terry cloth coveralls or two-piece, whole-body cotton suits are another simple and inexpensive personal cooling technique. It is effective when reflective or other impermeable protective clothing is worn.
- **Water-cooled garments** range from a hood, which cools only the head, to vests and "long johns," which offer partial or complete body cooling. Use of this equipment requires a battery-driven circulating pump, liquid-ice coolant, and a container.

Additional Information

- For more information on this, and other health-related issues affecting workers, visit OSHA's Web site at www.osha.gov.

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For more complete information:

OSHA Occupational Safety and Health Administration

U.S. Department of Labor

www.osha.gov

(800) 321-OSHA

DSTM 9/2005

OSHA Quick: Protect Yourself From Heat Stress

OSHA QUICK CARD™

Protect Yourself
Heat Stress

When the body is unable to cool itself by sweating, several heat-induced illnesses such as heat stress or heat exhaustion and the more severe heat stroke can occur, and can result in death.

Factors Leading to Heat Stress

High temperature and humidity; direct sun or heat; limited air movement; physical exertion; poor physical condition; some medicines; and inadequate tolerance for hot workplaces.

Symptoms of Heat Exhaustion

- Headaches, dizziness, lightheadedness or fainting.
- Weakness and moist skin.
- Mood changes such as irritability or confusion.
- Upset stomach or vomiting.

Symptoms of Heat Stroke

- Dry, hot skin with no sweating.
- Mental confusion or losing consciousness.
- Seizures or convulsions.

Preventing Heat Stress

- Know signs/symptoms of heat-related illnesses; monitor yourself and coworkers.
- Block out direct sun or other heat sources.
- Use cooling fans/air-conditioning; rest regularly.
- Drink lots of water; about 1 cup every 15 minutes.
- Wear lightweight, light colored, loose-fitting clothes.
- Avoid alcohol, caffeinated drinks, or heavy meals.

What to Do for Heat-Related Illness

- Call 911 (or local emergency number) at once.

While waiting for help to arrive:

- Move the worker to a cool, shaded area.
- Loosen or remove heavy clothing.
- Provide cool drinking water.
- Fan and mist the person with water.

For more complete information:

OSHA Occupational Safety and Health Administration
U.S. Department of Labor
www.osha.gov (800) 321-OSHA

OSHA 3154-07R-06

EPA Order 4800.1 A1, EPA Policy for Providing Wearing Apparel for Employees

EPA

ORDER

Classification No.: **4800.1 A1**

Approval Date: **February 21, 2003**
Review Date: **February 21, 2006**

Performance-Based Directives Series
EPA POLICY FOR PROVIDING WEARING APPAREL TO EMPLOYEES

Synopsis: This directive establishes the parameters for EPA issuance and employee use of wearing apparel, including uniforms, "special clothing," and clothing with identifying insignia. It will aid EPA's mission by providing appropriate wearing apparel to employees so they may effectively represent the Agency and perform job-specific critical activities. *Note*: This directive does not apply to "protective" clothing which is covered by EPA Order 1440.1 and EPA's Safety, Health and Environmental Management Program Guide referenced below.

Purpose of the Directive

Under certain circumstances, EPA may provide employees with wearing apparel in order for them to effectively and safely perform their expected duties. For example, during emergency response activities, proper wearing apparel may better permit EPA employees to gain access to field locations, provide a visible EPA presence, ensure employees' safety, and aid in logistical and managerial control. This directive covers wearing apparel, including uniforms, "special clothing," and clothing with identifying insignia, that can be provided to employees under certain conditions and assigns responsibilities to senior-level managers for the selection, issuance, procurement, and accounting of the wearing apparel. It does not provide a list of procedures that managers must follow when procuring and issuing wearing apparel and does not regulate the appropriate use of these items. Minimizing policy requirements provides the greatest flexibility for managers to determine what wearing apparel is most appropriate for each program office, site, or activity. A supplemental guidance document on procuring wearing apparel is referenced below.

Policy

Although federal employees are generally responsible for providing proper attire to perform their duties, some EPA wearing apparel may be provided to employees at the discretion of the Senior EPA Officials designated below in accordance with applicable federal law. EPA-provided wearing apparel remains Agency property and must be controlled and returned when it is no longer needed.

Anticipated Outcomes/ Results

This directive is expected to achieve the following:

(1) Employees and managers will understand who determines wearing apparel requirements;

(2) Employees will be able to obtain wearing apparel that is distinctive and easily recognizable and that facilitates identification when needed to effectively perform duties;

(3) Employees will not be denied access to field work locations and emergency situations due to lack of proper wearing apparel; and

(4) EPA officials and managers will use the proper funding appropriations to provide appropriate wearing apparel to their employees.

Performance Measures

Two years following the approval date, there will be an agency-wide review to assess the directive's effectiveness. Specifically, Senior EPA Officials should consider whether a need continues for the Agency to provide wearing apparel to employees within their jurisdiction so they can effectively and safely perform their duties. Input from other federal agencies involved in coordinated activities, such as from emergency-response teams, can be solicited to help EPA assess the directive's effectiveness.

This Directive Applies To

EPA Assistant Administrators; Regional Administrators; Inspector General, and the Chief of Staff for the Office of the Administrator (the Senior EPA Officials).

EPA employees who might have a need for government-provided wearing apparel include, but are not limited to: drivers; craft, custodial maintenance, and supply employees; engineering and scientific employees (having environmental investigations and test functions or assigned to assist in pollution emergencies); other employees, as appropriate, such as those designated "On-Scene Coordinators" at removal sites and remedial project managers at remedial sites; environmental protection specialists and assistants; and consumer safety officers.

Who Does What and When

Senior EPA Officials identified above shall:

(1) Periodically evaluate job assignments and duties within their program jurisdiction to determine which, if any, categories of employees are required or may be permitted to wear EPA-provided wearing apparel; identify the specific items that comprise the wearing apparel; and specify descriptions, colors, and circumstances under which they shall be worn.

(2) Consistent with existing legal authorities, provide wearing apparel to employees identified in (1) above, and establish appropriate procedures for stocking, accountability, issuance, initial alteration, replacement, and cleaning. (Because EPA-provided wearing apparel are considered government property, employee accountability must be established, such as through completion of a Sensitive Item Custody Card or other Agency property accountability system requirement.)

(3) Determine the appropriate and most cost-effective method for providing a uniform within the monetary limitation provided by the Federal Employees Uniform Act, as amended (currently at $400 per year per person).

(4) If uniform allowances are preferred, notify the Financial Management Division of allowances that need to be provided to certain employees for obtaining their own uniform, and establish the initial and replacement allowance amounts along with a replacement schedule.

(5) Consult with EPA's Office of General Counsel, Finance and Operations Law Office, if in doubt regarding whether specific wearing apparel meets appropriate guideline tests as described in Guidance on Providing Wearing Apparel to EPA Employees. (See References below.)

(6) Coordinate with components of offices of other Senior EPA Officials in an effort to establish consistency and uniformity in implementing this policy Agency-wide and for determining the success of this directive.

(7) If appropriate, re-delegate authorities to subordinate line managers.

EPA employees shall:

(1) Safeguard and maintain wearing apparel in good condition, including periodic cleaning and subsequent alteration at their personal expense.

(2) Return government property to the appropriate custodial property officer when it is no longer needed to fulfill job duties.

(3) Refrain from wearing EPA-provided wearing apparel outside of Agency activities and when not needed for performing job duties.

This policy may be subject to change or modification as the result of negotiations with unions at the level of exclusive bargaining recognition. Prior to implementation, notice should be given to recognized unions affording them the opportunity to partner and/or negotiate over the policy. For AFGE represented locations, a single notice will be given to the President of the AFGE Council of EPA locals. Other locations should give notice to the unions representing employees in their specific locations.

Keys to Success	EPA managers strive to obtain adequate financial resources to provide all necessary or desirable wearing apparel to employees to foster efficient fulfillment of job duties associated with EPA's mission; EPA managers work cooperatively to develop and implement consistent approaches within and between programs and to assess operational results to determine performance successes or needed modifications.
Authority	(1) 5 U.S.C. § 5901-5903 and 5 C.F.R. §§ 591.101-591.104 (for uniforms) (2) 5 U.S.C. § 7903 (for "special clothing") (3) 3 Comp. Gen. 433, 433-34 (1924) (for clothing with identifying insignia)
Sunset/Review Date	The effectiveness of this directive must be reviewed three years from the date of approval.
Supersedes/ Cancels	EPA Order 4800.1, *EPA Policy for Providing Wearing Apparel to Employees*, dated March 17, 2000.

References

- *Owner*: Office of Administration and Resources Management (OARM)
- For Guidance on Providing Wearing Apparel to EPA Employees, see http://intranet.epa.gov/rmpolicy/fac_serv.htm.
- For EPA policy on Occupational Safety and Health Act (9 U.S.C. § 668) personal "protective" clothing, see
  1) EPA Order 1440.1 A1 (http://intranet.epa.gov/rmpolicy/ads/transorders.htm) and
  2) Guide number 44 (10/31/96) of EPA's Safety, Health and Environmental Management Program Guide (contact the Safety, Health, and Environmental Management Division within OARM, Office of Administration).

EPA Order 1400.1, Safety, Health and Environmental Program
(See: http://intranet.epa.gov/ohr/rmpolicy/ads/orders/1440_1.pdf)

Use of Appropriated Funds for Wearing Apparel, Office of General Counsel Opinion, November 7, 2000

November 7, 2000

MEMORANDUM

Subject: Use of Appropriated Funds for Wearing Apparel

From: Lucille Liem /s/
Attorney-Adviser

To: Anna Woods

Thru: Richard Feldman /s/
Assistant General Counsel
Appropriations and General Law Practice Group
Finance and Operations Law Office

This is in response to your inquiry of October 3, 2000, for a legal opinion on the use of appropriated funds to purchase hard-shelled, safari-type hats with a mosquito netting surrounding the brim; heavy duty, cotton-twill "Red Camel" type work shirts; and heavy duty, cotton-twill "Red Camel" type work pants in connection with field work to perform a study at the Neuse River Basin in North Carolina. Working in this area involves exposure to poisonous snakes, poisonous plants, biological hazards from contaminated water, physical hazards from heat, briars, thorn bushes, heavy underbrush, and higher than normal mosquito populations. For the reasons that follow, we find that the use of appropriated funds would be proper.

EPA's policy (EPA Order 4800.1) for providing wearing apparel for employees addresses three types of wearing apparel: uniforms, "special clothing," and clothing with identifying insignia. The Agency addresses a fourth type of apparel, "protective clothing," under the Occupational Safety and Health Act (OSHA) in EPA Order 1440.1 and EPA's Safety, Health and Environmental Management Program Guide.

The apparel in question clearly does not fall under the uniform or clothing with identifying insignia categories. Therefore, those categories will not be discussed here.

Special Clothing

In general, the Federal government requires its employees to report to work wearing appropriate clothing for their jobs. However, one of the statutory exceptions to this general requirement is 5 U.S.C. § 7903 which states, "Appropriations available for the procurement of supplies and material or equipment are available for the purchase and maintenance of special clothing and equipment for the protection of personnel in the performance of their assigned tasks." In B-193014, January 9, 1979, the Comptroller General found that "special clothing" must meet all three of the following requirements:

1. the item must be "special" and not the type of clothing that an employee would reasonably be expected to provide for himself;

2. the item must be for the Government's benefit in that the employee must need the clothing to perform the work safely and successfully, and the clothing cannot be solely to protect the employee; and

3. the employee using the special clothing must be engaged in hazardous duty.

The Comptroller General has agreed that the following items are allowable "special clothing" in appropriate circumstances: snowmobile suits, helmets, and mittens for personnel required to operate snowmobiles over rough and remote forest terrain; and down-filled parkas for personnel who normally work in warmer climates but are temporarily assigned to perform outdoor activities in extremely cold winter conditions. These temporary duty employees would not be expected to own clothing for extreme environments, and the Comptroller General reasoned that without this clothing they could not physically perform their duties without endangering their health. 63 Comp. Gen 245 (1984). However, the Comptroller General has also determined that the following types of wearing apparel are not "special clothing": raincoats and umbrellas for use in rainy climates, mechanics overalls, and courier's running shoes. Employees do not need these items to physically perform their duties and to protect their health; they are considered the type of clothing that employees would reasonably be expected to provide for themselves.

We think that the "special clothing" test is met here. First, the hats are hard-shelled, safari-type hats with a mosquito netting attached to the brim of the hat. The hats are designed to protect the head, face, and neck area against the mosquitoes and the heat and ultraviolet rays of the sun. The heavy duty, cotton-twill "Red Camel" type work shirts and heavy duty, cotton-twill "Red Camel" type work pants similarly are required to protect the employee. In addition, the employees who will perform the study are not routinely assigned to work in a hazardous environment. Based on these factors, we believe that the employees assigned for temporary duty here would not be expected to own this apparel themselves. Second, the Neuse River Basin is an environment with extreme hazards; the employees will be exposed to briars, thorn bushes,

heavy underbrush, poisonous snakes and a higher than normal mosquito population. Therefore, without this clothing, employees could not physically and safely perform their duties and could be at risk for snake bites, cuts, contracting mosquito-borne and parasitic-borne diseases, and other injuries. Third, the facts reveal that the employees will be engaged in hazardous duty in an environment that could subject them to health hazards or injury. We conclude that in these circumstances, appropriated funds may be used to purchase the hats, shirts and pants.

Protective Clothing Under OSHA

Under the Occupational Safety and Health Act (OSHA) (29 U.S.C. § 668), each agency must have an effective and comprehensive occupational safety and health program which must "acquire, maintain, and require the use of safety equipment, personal protective equipment, and devices reasonably necessary to protect employees." Additionally, Section 19 of OSHA requires the head of an executive agency or department, or an official designated by him or her, to determine items necessary under OSHA and its implementing regulations. The Comptroller General has interpreted OSHA to allow the Government to furnish swamp boots to work in a jungle environment or ski boots for the Forest Service snow rangers. B-187507, December 23, 1976; 57 Comp. Gen. 379 (1978). The Comptroller General also held that the purchase of steel-toe safety shoes for a supply clerk whose work included movement of heavy objects was authorized under Section 19 of OSHA, if the agency determined that the footwear is determined necessary for safety reasons to protect the clerk from the possibility of foot injury. 67 Comp. Gen. 104 (1987).

Here, the hard-shelled, safari-type hats; heavy duty, cotton-twill "Red Camel" type work shirts; and heavy duty, cotton-twill "Red Camel" type work pants may also satisfy the standards under OSHA for personal protective clothing and equipment. EPA Order 1440.1, May 11, 1998, states that it is the EPA policy for its Senior Managers to provide safe and healthful working conditions for EPA employees. Here, the Director for the Office of Research and Development in Research Triangle Park for Safety, Health, and Environmental Management specifically authorized the purchase of the shirts, pants, and hats. Since the protective hats, heavy-duty long-sleeved shirts and heavy-duty pants were reasonably determined to be necessary for employee safety under the EPA Order 1440.1, we conclude that appropriated funds may be used for their purchase.

cc: Jeff Davidson